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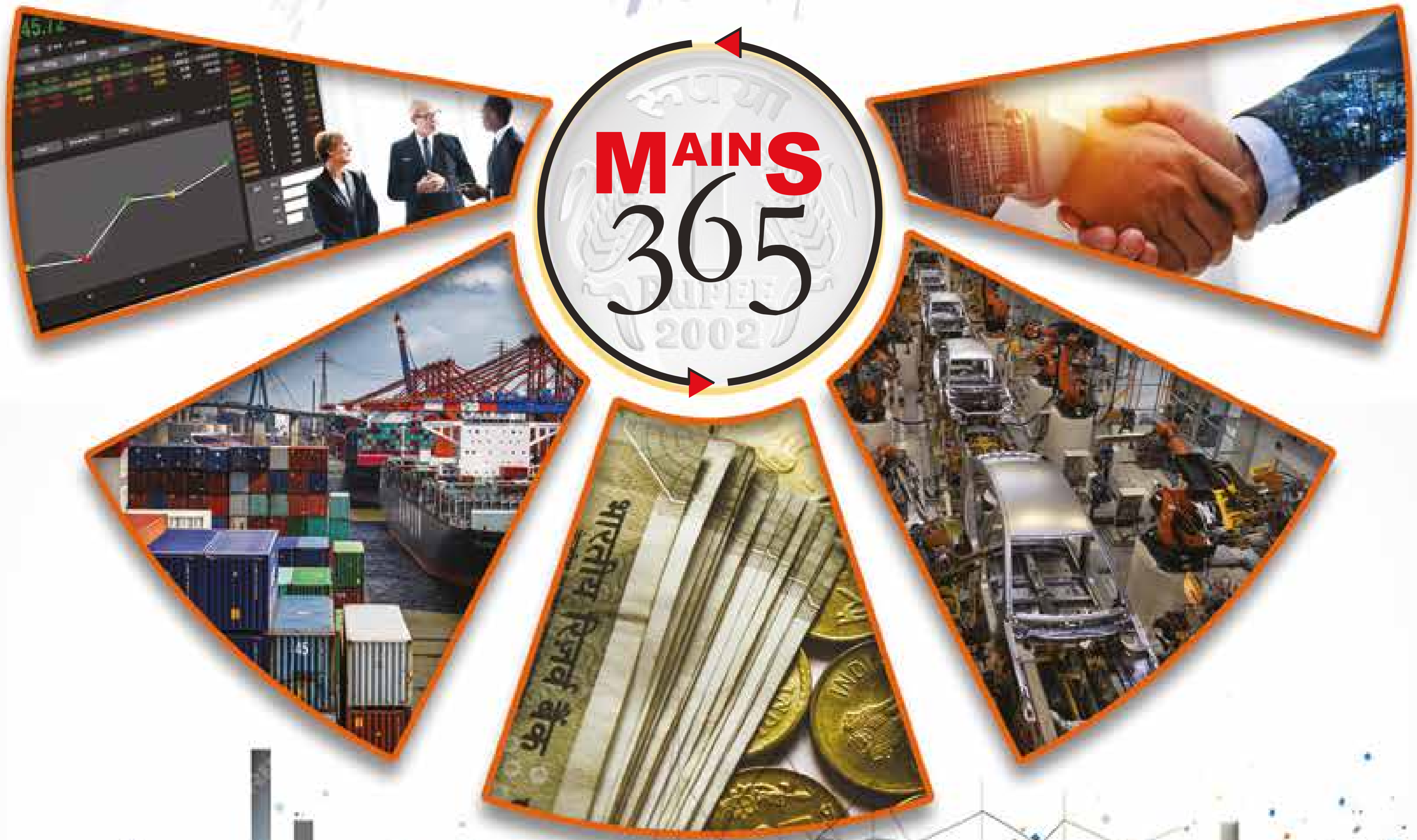

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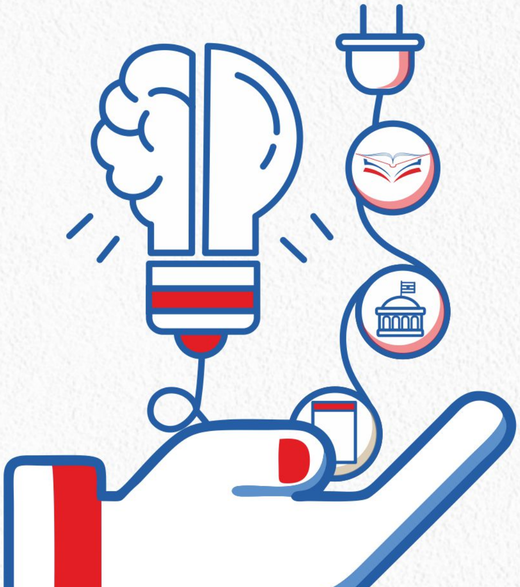

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- Anthropology
- Geography
- Physics
- Sociology
- Public Administration
- Political Science and International Relations
- History
- Philosophy

Starts : **1 JULY**

ECONOMY

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Preface

To the Aspirants

The UPSC Civil Services Mains Examination is not merely a test of knowledge but a challenge of precision, clarity, and smart revision. In the vast syllabus of **General Studies Paper III**, the Economy section continues to play a decisive role in boosting overall marks. Recognizing this, **VISION IAS brings to you the Mains 365- Economy,** a meticulously curated document designed to serve as your ultimate revision companion.

This document is **not just a compilation of current affairs**-it is a strategic tool crafted to help aspirants enhance answer quality, incorporate current economic developments with conceptual clarity, and fetch those crucial extra marks that often make the difference in final selection. With **sector/issue-based categorization, value-added insights, and model-ready content**, this compilation allows you to revise comprehensively and quickly, even during those intense last few days before the exam. Designed to be exam-centric, crisp, and insightful, Mains 365 Economy is your way to smart preparation and strategic edge in the examination hall.

Let this be your go-to guide-for clarity, for revision, and for success.

Q.1 WHY DO EVEN WELL-READ ASPIRANTS STRUGGLE WITH GS-III ECONOMY?

- **Fragmented Sources:** Jumping between multiple sources creates confusion.
- **Static-Dynamic Disconnect:** Knowing theories without real-time examples makes answers shallow.
- **Data Fatigue:** Facts are abundant, but few know where and how to use them effectively.
- **Conceptual Clarity Gap:** Without analytical framing, even the best data fails to impress UPSC.

***Mains 365 Economy** is built to solve these.*

Q2. WHY THIS DOCUMENT IS YOUR EDGE IN GS PAPER-III ECONOMY?

- It mirrors UPSC's demand for **interlinked, analytical answers**-e.g., Linkage of WTO's Fisheries Subsidies Agreement with Indian Fishermen, or how technological developments affect future of work.
- Every topic from Export Promotion to Logistics Policy, from Entrepreneurial State to Edible Oils-is mapped to current affairs with a clear **Context-Analysis-Way Forward/Conclusion** framework.
- **Infographics, TAG tables, and data boxes** help you recall faster and write sharper, especially under time pressure.

Q3. HOW DOES IT ENHANCE ANSWER WRITING?

Let's take a Question: "*Union Budget 2026–27's two-track manufacturing strategy seeks to combine technological self-reliance with labour-intensive growth. Discuss how this strategy can help India move from strategic autonomy to strategic indispensability in global value chains. Also examine the key constraints that may hinder India's manufacturing transformation.*"

Answer: Mains 365 - Economy enables you to answer such questions with ease and precision. For instance:

INTRODUCTION CAN BE ADDED FROM HERE:

Manufacturing Sector in India

Why in the News?

Union Budget 2026–27 proposes a **two-track manufacturing strategy** i.e. strengthening capabilities in **technology-intensive sectors** while sustaining **scale and employment in labour-intensive industries**.

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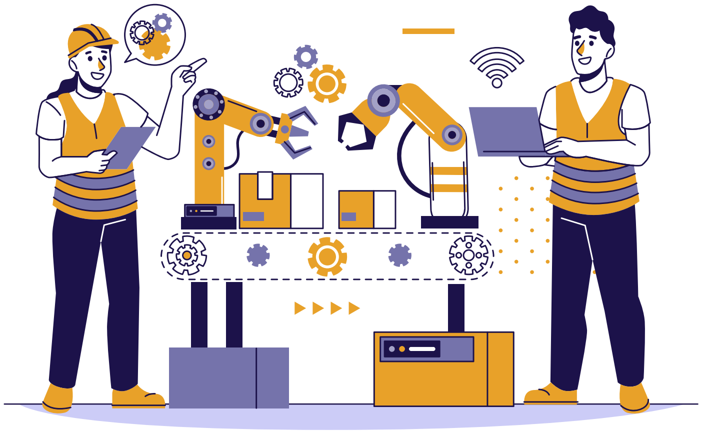

Significance of the change in Manufacturing strategy

- **Two-Track Manufacturing Strategy**: Deepening capabilities in strategic, technology-intensive sectors (like semiconductors and biologics) while simultaneously scaling up employment and export diversification through labour-intensive sectors (like textiles and sports goods).
- **Shift from Strategic Autonomy to Strategic Indispensability**: Ensuring that India becomes a critical and irreplaceable node in Global Value Chains (GVCs).
- **Moving Up the "Smiling Curve"**: By shifting from low-value assembly to higher-value activities like design, R&D, and component manufacturing.
    - **Smiling Curve** is a concept in global value chains showing that **higher value is generated in upstream activities (R&D, design) and downstream activities (branding, marketing)**, while **manufacturing and assembly in the middle create relatively lower value.**
- **Geo-economic Hedging and Supply Security**: By localising critical upstream inputs, India aims to reduce import dependence and strategic vulnerabilities.
    - For instance, the Rare Earth Permanent Magnets scheme seeks to build domestic capacity for EVs and renewables, while Biopharma SHAKTI helps hedge against potential US tariffs on branded drugs.
- **Broad-Based and Inclusive Growth**: Reviving 200 legacy industrial clusters aims to broaden growth beyond high-tech hubs by boosting productivity through shared infrastructure and knowledge spillovers

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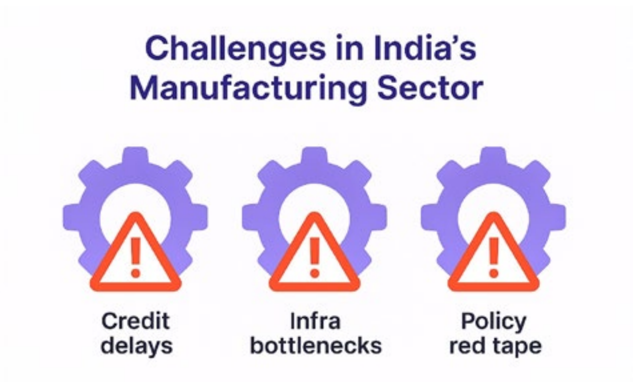
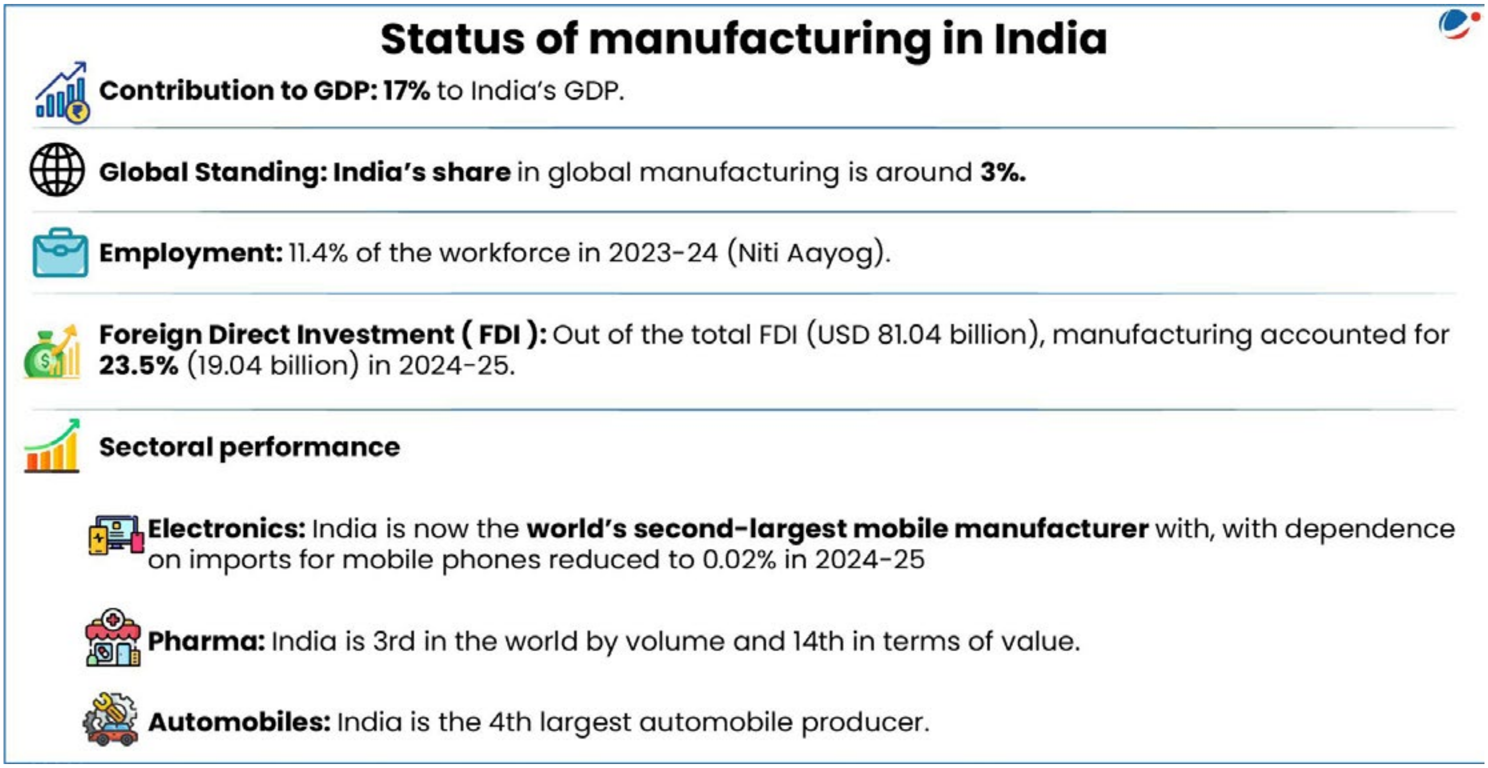
Challenges Faced by Manufacturing in India



- **Funding Gaps: By the government and industry for frontier technologies** to support pilot-to-scale transitions.
    - Inadequate adoption of these technologies could result in a reduction of **India's share of global manufacturing to 2.5% by 2035 (NITI Aayog).**
- **Low Investment in R&D**: E.g., R&D spending in India accounted for **only 0.64% of GDP** in 2023, far below China, which spent around 2.5%.
- **Disincentives to Scale:** Stringent regulations incentivise **MSMEs to remain small** to avoid regulations and taxes, reducing employability and scalability.
    - Approx 35.5% of manufacturing output is accounted by MSMEs.
- **Manufacturing vs Services Imbalance:** India experienced services-led growth; bypassing manufacturing-led structural transformation seen in East Asia, e.g. Services account for approximately 55% of GDP.
    - This has resulted in **unemployment** as Services (especially IT and finance) are high-productivity but low-employment sectors.
- **Low labour productivity:** According to the ILO, GDP per working hour in India was $8, placing it at the 133rd position.
- **Unequal distribution**: The top 5 states account for nearly 54% of manufacturing GVA.

INFOGRAPHIC FOR VALUE ADDITION



Status of manufacturing in India

Contribution to GDP: 17% to India's GDP.

Global Standing: India's share in global manufacturing is around **3%.**

Employment: 11.4% of the workforce in 2023-24 (Niti Aayog).

Foreign Direct Investment (FDI): Out of the total FDI (USD 81.04 billion), manufacturing accounted for **23.5%** (19.04 billion) in 2024-25.

Sectoral performance

Electronics: India is now the **world's second-largest mobile manufacturer** with, with dependence on imports for mobile phones reduced to 0.02% in 2024-25

Pharma: India is 3rd in the world by volume and 14th in terms of value.

Automobiles: India is the 4th largest automobile producer.

CONCLUSION FROM HERE:

Conclusion

Amid a rapidly evolving global order, the stages of Aatmanirbharta are increasingly overlapping rather than sequential. This necessitates a simultaneous pursuit of **import substitution** (reducing import dependence), **resilience** (continuity and security of supply chains), **and indispensability** (global leadership and enabling leverage in negotiations). By treating manufacturing as an institutional stress test and aligning intent with execution, India can evolve from a recipient of stability to a source of global influence.

Q4. WHAT MAKES IT 'EXAM-READY'?

- **GS-III-Aligned Structure:** Each chapter aligns with syllabus heads - Growth, External Sector, Fiscal Policy, Agriculture, Infrastructure etc.
- **Ready-to-Quote Facts:** E.g. India is largest producer of Jute; By 2036, India will need to invest $840 billion in infrastructure etc.
- **Comparative Insights:** Economic Complexity Index (ECI) rankings, asset monetisation, state finances all explained in usable formats.

Q5. WHAT'S THE LAST-MILE BENEFIT IN EXAM HALL?

When others are thinking "what to write," you'll already be structuring your 250-word answer with impact. Mains 365 is built not just for coverage, but for retention, recall, and razor-sharp delivery.

Final Word

Treat this document as your answer bank. Use it to enrich your notes, simulate questions, and visualise answers in UPSC language. Remember-when content meets clarity and context, marks follow.

Let this be your economic toolkit-not just for the exam, but for the future administrator in you.

1. GROWTH AND DEVELOPMENT

1.1. ECONOMIC INDICATORS

1.1.1. REVISION OF CONSUMER PRICE INDEX

Why in the News?

The Ministry of Statistics & Programme Implementation (MoSPI) released the Consumer Price Index (CPI) with a new base year of 2024.

Consumer Price Index (CPI)

- **About: CPI** is designed to measure the **changes over time** in general level of retail prices of selected goods and services that households purchase for the purpose of consumption.
    - **Each item** in the CPI basket is assigned a **specific weight**, which reflects its relative share of total consumer spending.
- **Genesis: CPI (Rural, urban and combined)** has been started releasing by the **MoSPI** since January 2011 with base year 2010.
    - **CPI (Combined**) which covers both rural and urban households is used as the **headline inflation** measure.

Need to update CPI base year:

- **Structural Changes in Economy:** Since 2012, shifts in consumption patterns, income levels, urbanisation and growth of the services sector demands updated weights.
- **Technological & Market Evolution:** Digital trade expansion (E.g., commerce) and fading rural–urban boundaries demand redesign of the inflation measurement framework.
- **Better Monetary Policy Transmission:** As RBI relies on CPI (Combined) for inflation targeting (4% ± 2%), accurate weights ensure effective policy decisions.
- **International Comparability:** Many countries **revise CPI** baskets every **3–5 years**.

Significance of CPI

Monetary policy: Used by **the RBI** for monetary policy decisions and monitoring price stability.

Policy Interventions: Used for **designing policy and social sector welfare** schemes by various Central Government.

National accounts: CPI serves as a **deflator** to adjust nominal **GDP to real GDP,** thus capturing actual economic growth.

Wage and contract indexation: For **revising wages, updating tax brackets,** adjusting social security payments, and for escalation clauses in contract.

Key changes made in CPI 2024 in comparison to CPI 2012

Features	CPI 2024	CPI 2012
Base Year	**2024**	**2012**
Coverage of markets and items	Total number of weighted items in this basket will be **358** (goods will increase	At the All-India level, prices are collected for **299 items** (number of items in rural are 288 in rural and 281 in urban).

	from 259 to 308 and services from 40 to 50 item).	
Changes in Items	**New Additions:** Rural housing, Online media service provider/Streaming services, Value added dairy products, Barley & its product, Pen-drive & External Hard disk, Attendant, Babysitter and Exercise equipment etc. **Items Removed from 2012 CPI:** VCR/VCD/DVD player and hiring charges, Radio, Tape recorder, Clothing second-hand, CD/DVD audio/video cassettes and Coir/rope.	
Weight Reference	**Household Consumption Expenditure Survey** (HCES) 2023-24.	**Consumer Expenditure Survey (CES**), 2011-12
Classification System	**12 Divisions** based on Classification of Individual Consumption According to Purpose (COICOP 2018).	**6 Groups** based on COICOP 1999. **COICOP** is the international classification of household expenditure developed by United Nations Statistics Division.
Release of Housing index	**All India, urban and rural** (Rural rent included for the first time)	**All India and urban.**
Weight of Food & Beverages (Highest weightage)	**36.75%.**	**45.86%.**

Other important changes in CPI 2024

- **Inclusion of alternative data sources:**
    - **E-commerce prices** introduced as an additional market in 12 large towns (population exceeding 25 lakhs)
    - **Online sources** for select services such as airfares and OTT subscriptions.
    - **Administrative** data for standardized services such as rail fares, postal charges and fuel prices (Petrol, Diesel, LPG, CNG & PNG etc.)

Conclusion

To maintain relevance, the MoSPI is planning regular base revisions every **3 to 5 years** based on Household Consumption Expenditure Survey data. A revised CPI will offer a more representative, transparent, and methodologically robust measure of retail inflation, aligned with global best practices and evolving consumption patterns.

1.1.2. IMF GRADING OF INDIA'S NATIONAL ACCOUNTS DATA

Why in the News?

The **International Monetary Fund (IMF)** assigned a grade of **"C"** to India's **National Accounts statistics** (e.g. GDP, GVA etc.).

Issues with India's Statistical Architecture According to IMF:

- **Irregular Updation of Base Years:** An outdated base year relies on "**weights**" assigned to industries that may no longer be relevant.
    - India's GDP series is currently anchored to the **2022-23** base.

The IMF's four-tier data adequacy system

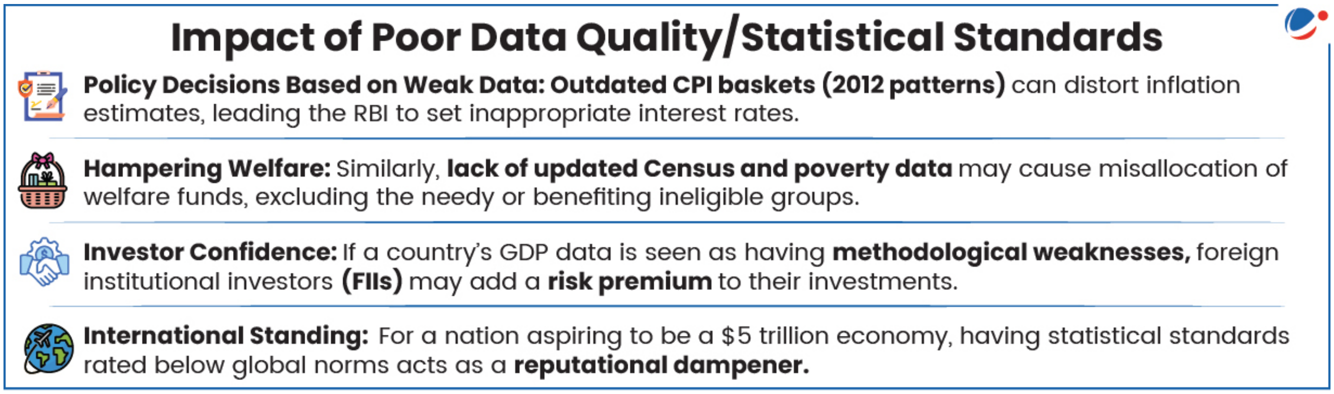
Grade A: Data is adequate for surveillance.

Grade B: Data has some shortcomings but is broadly adequate.

Grade C: Data has shortcomings that somewhat hamper surveillance.

Grade D: Data has serious shortcomings that significantly hamper surveillance.

- **Deflator Issues: (The Single Deflation Problem):** The IMF critiqued the reliance on **single deflation** (deflating output value only) rather than **double deflation** (deflating both output and input costs separately).
    - Statisticians use the Wholesale Price Index (**WPI**), which tracks goods, to deflate the value of services.
- **Data Delays & Informal Sector: The current method relies on extrapolating informal-sector growth** using benchmarks over a decade old.
    - **Without an updated Census**, sample surveys (like the PLFS or NSSO consumption surveys) rely on extrapolated population frames from 2011, **reducing their accuracy**.
    - **Production vs. Expenditure:** The IMF noted **sizeable discrepancies** between **GDP** calculated from the production side (**GVA**) and the **expenditure** side.



Impact of Poor Data Quality/Statistical Standards

Policy Decisions Based on Weak Data: Outdated CPI baskets (2012 patterns) can distort inflation estimates, leading the RBI to set inappropriate interest rates.

Hampering Welfare: Similarly, **lack of updated Census and poverty data** may cause misallocation of welfare funds, excluding the needy or benefiting ineligible groups.

Investor Confidence: If a country's GDP data is seen as having **methodological weaknesses,** foreign institutional investors **(FIIs)** may add a **risk premium** to their investments.

International Standing: For a nation aspiring to be a $5 trillion economy, having statistical standards rated below global norms acts as a **reputational dampener.**

Reforms Needed

- **Strengthening the National Statistical Commission (NSC): The 27th Report of the Parliamentary Standing Committee on Finance** explicitly recommended that the National Statistical Commission **(NSC) be given statutory authority.**
- **Modernization and Methodology:**
    - **Chain-Base System:** Moving **away from the static "base year" revision every decade**, India should explore a **Chain-Weighted System** (used by the US and other advanced economies), where weights are updated annually to reflect real-time structural changes.
    - **Tech Integration:** Leveraging **Big Data** (GSTN data, digital payments data) can provide high-frequency indicators to supplement traditional surveys.
    - **Household Income Survey: India's first-ever official** Household Income Survey, **expected in 2026**, will help bridge the gap between income and expenditure estimates.
- **Calendar Adherence:** The government must **prioritise** conducting the Census, as it is the **bedrock** of the statistical system.
- **Methodological Shifts:** The transition from WPI to a PPI-based deflation system is **essential to move towards the double deflation standard used by developed economies.**

Conclusion

The IMF's "C" grade should be viewed **not as a vote of no-confidence in India's growth story, but as a technical wake-up call**. Implementing the Parliamentary Panel's recommendations and adhering to the MoSPI's 2026 release calendar will be **pivotal** in upgrading India's data credibility from a "C" to an "A".

1.1.2.1. NEW GROSS DOMESTIC PRODUCT (GDP) SERIES

Why in the news?

The Ministry of Statistics and Programme Implementation (MoSPI) released the **New Series of Annual and Quarterly National Accounts Estimates (including the GDP).**

WHY GDP BASE YEAR BEEN REVISED?

Structural Shifts
New base captures expansion of digital services, renewable energy, and evolving consumption patterns over the last decade.

International Best Practices
Periodic revisions support alignment with international best practices recommended by UN Statistical Commission.

IMPLICATIONS OF REVISED GDP BASE YEAR

DECREASE IN GDP SIZE	HIGHER FISCAL DEFICIT (FD)	HIGHER DEBT-TO-GDP
Despite higher real growth of 7.6% (FY 2025-26), nominal size of economy revised downward by ~3.3-3.8% (₹345.47 lakh crore for FY 2025-26) for years 2023-26.	Lower GDP base pushes FY 2025-26 revised FD estimate up from 4.36% to 4.51% of GDP.	Estimated at 57.5% (against budgeted target of 55.6%), complicating goal of reducing central debt to 50% by 2031.

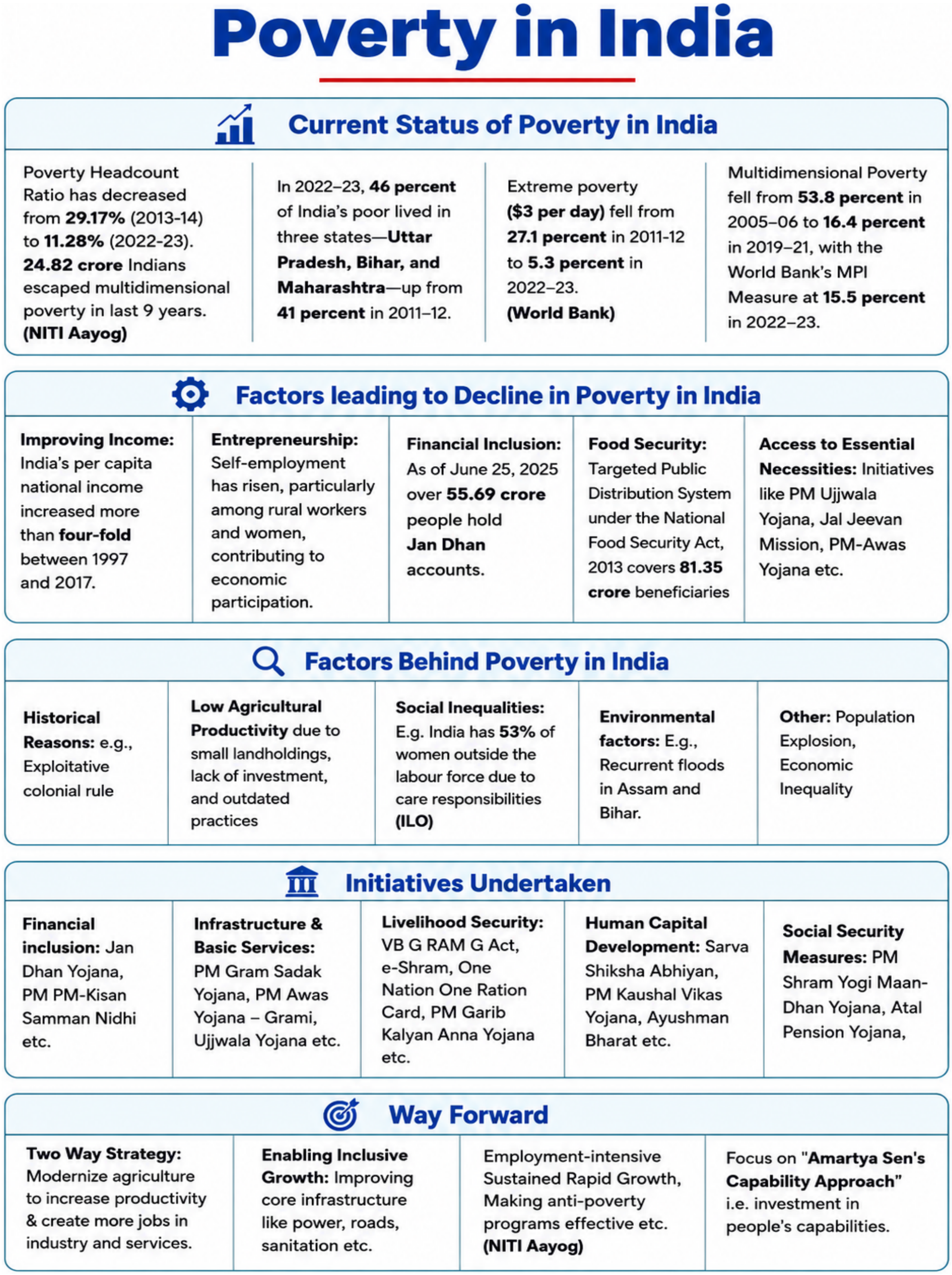
Key changes in the New GDP Series

- **New Base Year: 2022-23** (earlier 2011-12).
- **New Data Sources:** Now integrates **high-frequency and administrative data**, including **GST collections, the e-Vahan portal**, and **the Public Financial Management System (PFMS)**.
- **Refined Deflation Techniques: Double deflation (discounting input price as well, along with output price)** is now applied in manufacturing and agriculture, discontinuing the use of **Single deflation**.
- **Integration of Supply and Use Tables (SUT):** The SUT framework has been **aligned with National accounts** to reduce discrepancies between production- and expenditure-based GDP estimates.
- **Improved Estimation of Private Final Consumption Expenditure (PFCE):** By integrating direct estimation from production, administrative data, and the commodity flow approach.
- **Other**: Inclusion of
  - **Hired domestic workers** capturing digital, platform and gig economy activities in the Revised GDP Series;
  - **Annual Survey of Unincorporated Sector Enterprises (ASUSE)** and the **Periodic Labour Force Survey (PLFS)** to better measure the household and informal sectors.

Conclusion

The new GDP series represents a significant step towards improving the accuracy, transparency, and reliability of India's national income estimates. By incorporating contemporary data sources, better measurement techniques, and a stronger representation of the informal and digital economy, it provides a more realistic picture of India's evolving economic structure and growth trajectory.

1.2. POVERTY IN INDIA AT A GLANCE



Poverty in India

Current Status of Poverty in India

- Poverty Headcount Ratio has decreased from **29.17%** (2013-14) to **11.28%** (2022-23). **24.82 crore** Indians escaped multidimensional poverty in last 9 years. **(NITI Aayog)**
- In 2022–23, **46 percent** of India's poor lived in three states—**Uttar Pradesh, Bihar, and Maharashtra**—up from **41 percent** in 2011–12.
- Extreme poverty **($3 per day)** fell from **27.1 percent** in 2011-12 to **5.3 percent** in 2022–23. **(World Bank)**
- Multidimensional Poverty fell from **53.8 percent** in 2005–06 to **16.4 percent** in 2019–21, with the World Bank's MPI Measure at **15.5 percent** in 2022–23.

Factors leading to Decline in Poverty in India

- **Improving Income:** India's per capita national income increased more than **four-fold** between 1997 and 2017.
- **Entrepreneurship:** Self-employment has risen, particularly among rural workers and women, contributing to economic participation.
- **Financial Inclusion:** As of June 25, 2025 over **55.69 crore** people hold **Jan Dhan** accounts.
- **Food Security:** Targeted Public Distribution System under the National Food Security Act, 2013 covers **81.35 crore** beneficiaries
- **Access to Essential Necessities:** Initiatives like PM Ujjwala Yojana, Jal Jeevan Mission, PM-Awas Yojana etc.

Factors Behind Poverty in India

- **Historical Reasons:** e.g., Exploitative colonial rule
- **Low Agricultural Productivity** due to small landholdings, lack of investment, and outdated practices
- **Social Inequalities:** E.g. India has **53%** of women outside the labour force due to care responsibilities **(ILO)**
- **Environmental factors:** E.g., Recurrent floods in Assam and Bihar.
- **Other:** Population Explosion, Economic Inequality

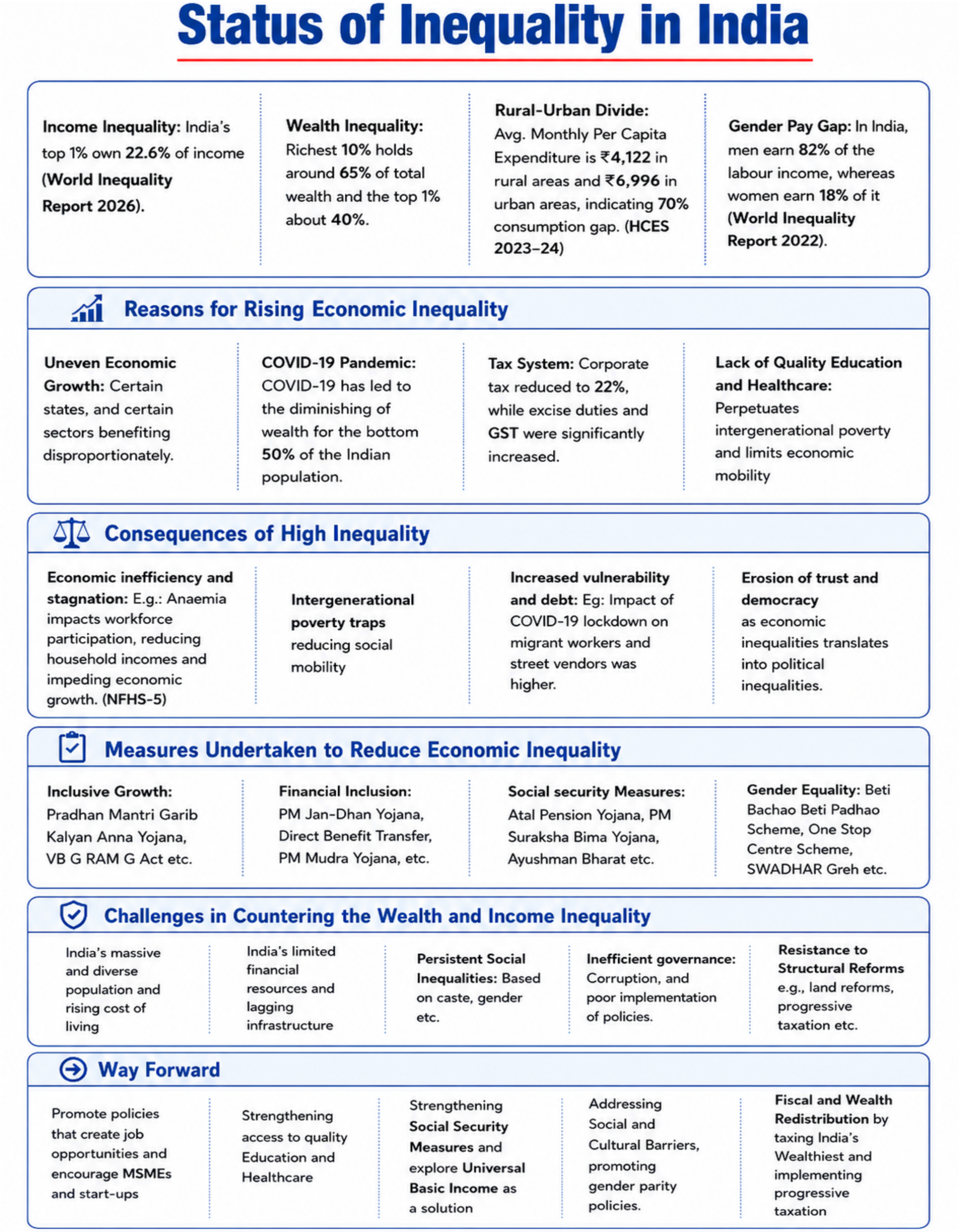
Initiatives Undertaken

- **Financial inclusion:** Jan Dhan Yojana, PM PM-Kisan Samman Nidhi etc.
- **Infrastructure & Basic Services:** PM Gram Sadak Yojana, PM Awas Yojana – Grami, Ujjwala Yojana etc.
- **Livelihood Security:** VB G RAM G Act, e-Shram, One Nation One Ration Card, PM Garib Kalyan Anna Yojana etc.
- **Human Capital Development:** Sarva Shiksha Abhiyan, PM Kaushal Vikas Yojana, Ayushman Bharat etc.
- **Social Security Measures:** PM Shram Yogi Maan-Dhan Yojana, Atal Pension Yojana,

Way Forward

- **Two Way Strategy:** Modernize agriculture to increase productivity & create more jobs in industry and services.
- **Enabling Inclusive Growth:** Improving core infrastructure like power, roads, sanitation etc.
- Employment-intensive Sustained Rapid Growth, Making anti-poverty programs effective etc. **(NITI Aayog)**
- Focus on "**Amartya Sen's Capability Approach**" i.e. investment in people's capabilities.

1.2.1. INEQUALITY IN INDIA AT A GLANCE



Status of Inequality in India

- **Income Inequality:** India's top 1% own **22.6%** of income (**World Inequality Report 2026**).
- **Wealth Inequality:** Richest **10%** holds around **65%** of total wealth and the top **1%** about **40%**.
- **Rural-Urban Divide:** Avg. Monthly Per Capita Expenditure is **₹4,122** in rural areas and **₹6,996** in urban areas, indicating **70%** consumption gap. (**HCES 2023–24**)
- **Gender Pay Gap:** In India, men earn **82%** of the labour income, whereas women earn **18%** of it (**World Inequality Report 2022**).

Reasons for Rising Economic Inequality

- **Uneven Economic Growth:** Certain states, and certain sectors benefiting disproportionately.
- **COVID-19 Pandemic:** COVID-19 has led to the diminishing of wealth for the bottom **50%** of the Indian population.
- **Tax System:** Corporate tax reduced to **22%**, while excise duties and **GST** were significantly increased.
- **Lack of Quality Education and Healthcare:** Perpetuates intergenerational poverty and limits economic mobility

Consequences of High Inequality

- **Economic inefficiency and stagnation:** E.g.: Anaemia impacts workforce participation, reducing household incomes and impeding economic growth. (**NFHS-5**)
- **Intergenerational poverty traps** reducing social mobility
- **Increased vulnerability and debt:** Eg: Impact of COVID-19 lockdown on migrant workers and street vendors was higher.
- **Erosion of trust and democracy** as economic inequalities translates into political inequalities.

Measures Undertaken to Reduce Economic Inequality

- **Inclusive Growth:** Pradhan Mantri Garib Kalyan Anna Yojana, VB G RAM G Act etc.
- **Financial Inclusion:** PM Jan-Dhan Yojana, Direct Benefit Transfer, PM Mudra Yojana, etc.
- **Social security Measures:** Atal Pension Yojana, PM Suraksha Bima Yojana, Ayushman Bharat etc.
- **Gender Equality:** Beti Bachao Beti Padhao Scheme, One Stop Centre Scheme, SWADHAR Greh etc.

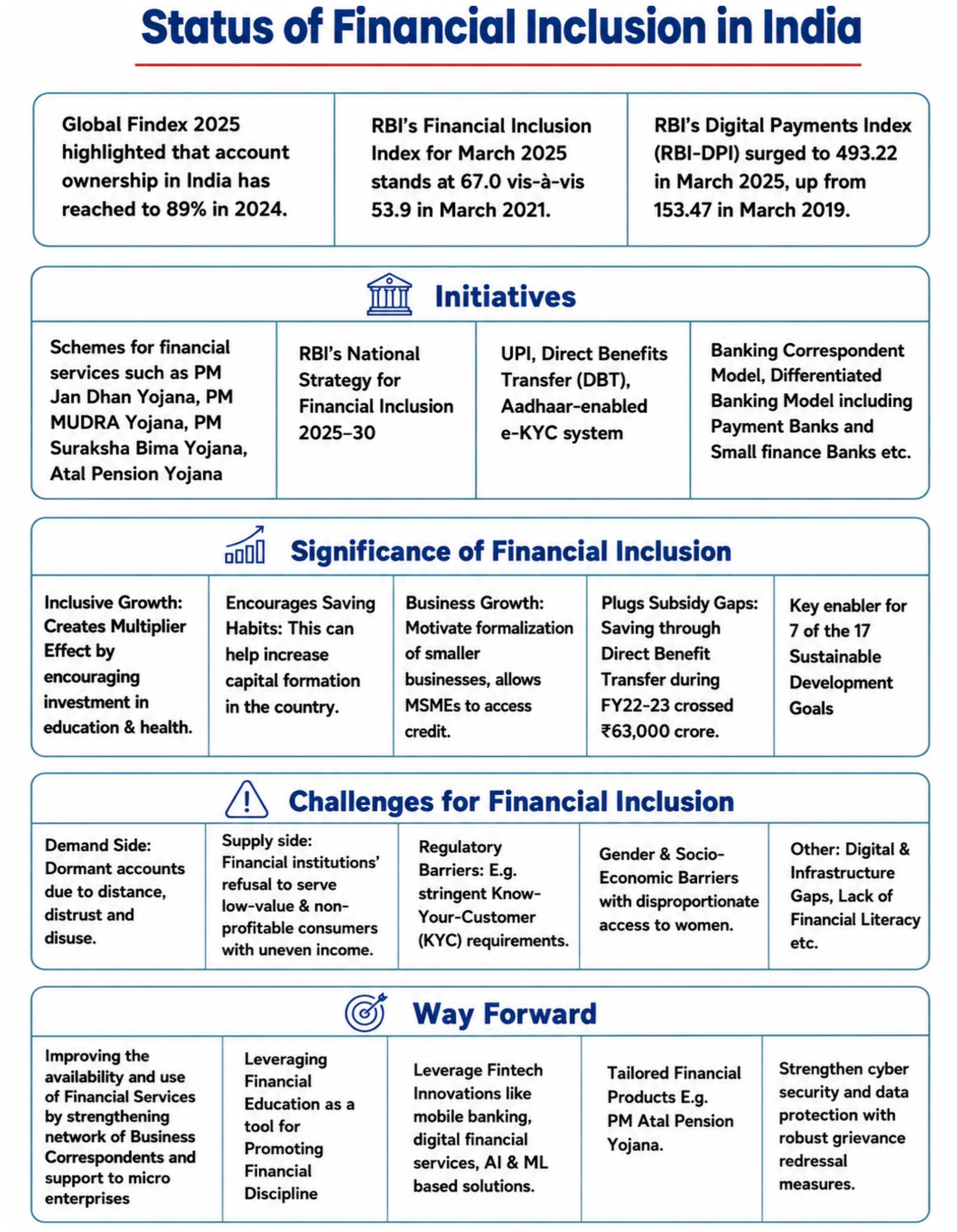
Challenges in Countering the Wealth and Income Inequality

- India's massive and diverse population and rising cost of living
- India's limited financial resources and lagging infrastructure
- **Persistent Social Inequalities:** Based on caste, gender etc.
- **Inefficient governance:** Corruption, and poor implementation of policies.
- **Resistance to Structural Reforms** e.g., land reforms, progressive taxation etc.

Way Forward

- Promote policies that create job opportunities and encourage **MSMEs** and start-ups
- Strengthening access to quality Education and Healthcare
- Strengthening **Social Security Measures** and explore **Universal Basic Income** as a solution
- Addressing Social and Cultural Barriers, promoting gender parity policies.
- **Fiscal and Wealth Redistribution** by taxing India's Wealthiest and implementing progressive taxation

1.3. FINANCIAL INCLUSION IN INDIA AT A GLANCE



Status of Financial Inclusion in India

- Global Findex 2025 highlighted that account ownership in India has reached to 89% in 2024.
- RBI's Financial Inclusion Index for March 2025 stands at 67.0 vis-à-vis 53.9 in March 2021.
- RBI's Digital Payments Index (RBI-DPI) surged to 493.22 in March 2025, up from 153.47 in March 2019.

Initiatives

- Schemes for financial services such as PM Jan Dhan Yojana, PM MUDRA Yojana, PM Suraksha Bima Yojana, Atal Pension Yojana
- RBI's National Strategy for Financial Inclusion 2025-30
- UPI, Direct Benefits Transfer (DBT), Aadhaar-enabled e-KYC system
- Banking Correspondent Model, Differentiated Banking Model including Payment Banks and Small finance Banks etc.

Significance of Financial Inclusion

- Inclusive Growth: Creates Multiplier Effect by encouraging investment in education & health.
- Encourages Saving Habits: This can help increase capital formation in the country.
- Business Growth: Motivate formalization of smaller businesses, allows MSMEs to access credit.
- Plugs Subsidy Gaps: Saving through Direct Benefit Transfer during FY22-23 crossed ₹63,000 crore.
- Key enabler for 7 of the 17 Sustainable Development Goals

Challenges for Financial Inclusion

- Demand Side: Dormant accounts due to distance, distrust and disuse.
- Supply side: Financial institutions' refusal to serve low-value & non-profitable consumers with uneven income.
- Regulatory Barriers: E.g. stringent Know-Your-Customer (KYC) requirements.
- Gender & Socio-Economic Barriers with disproportionate access to women.
- Other: Digital & Infrastructure Gaps, Lack of Financial Literacy etc.

Way Forward

- Improving the availability and use of Financial Services by strengthening network of Business Correspondents and support to micro enterprises
- Leveraging Financial Education as a tool for Promoting Financial Discipline
- Leverage Fintech Innovations like mobile banking, digital financial services, AI & ML based solutions.
- Tailored Financial Products E.g. PM Atal Pension Yojana.
- Strengthen cyber security and data protection with robust grievance redressal measures.

1.3.1. MICROFINANCE SECTOR

Why in the News?

Gross Loan Portfolio (GLP) of the microfinance sector fell 13.9% year on year, that reflects growing borrower stress and reduced lending.

About Microfinance

- Microfinance for loans (i.e., microcredit) is the provision of small-scale financial services to people who lack access to traditional banking services. (World Bank)
- **Status:** India's microfinance sector, serving over 8 crore clients across 28 states, 8 Union Territories (Uts), and 723 districts, has a loan portfolio of ₹3.81 lakh crore as of March 31, 2025.
- **Regulation:** RBI regulates microfinance sector.
- **Significance:** Potent tool for **financial inclusion** and socio-economic transformation, empowerment of women through self help groups, poverty reduction and overall rural development.

Challenges of Microfinance Institutions (MFIs)

- **High Cost of Outreach:** MFIs serve remote and underbanked populations through small-ticket loans.
  - India's MFI outreach remains at 8%, far behind Bangladesh's 65%.
- **High Interest Rates:** MFIs charge 12%–30% interest, higher than banks' 8%–12%.
  - High rates persist due to fixed transaction costs, higher provision for bad loans and limited volume.
- **Rural-Urban Disparity:** MFIs over-focus on rural poor; only 800 MFIs target urban poor.
- **Loan Defaults:** High delinquency due to no collateral and poor risk management with over 70% of payments being **late**, limiting cash flow and sustainability.
  - Gross Non-Performing Assets (NPAs) reaching 16% in FY25, nearly doubling from 8.8% in the previous year.
- **Overdependence on Banks:** 80% of MFI funding comes from commercial banks.
- **Lack of Product Diversification:** MFIs are largely limited to microcredit while other services like **insurance, savings, remittances** are rarely offered.

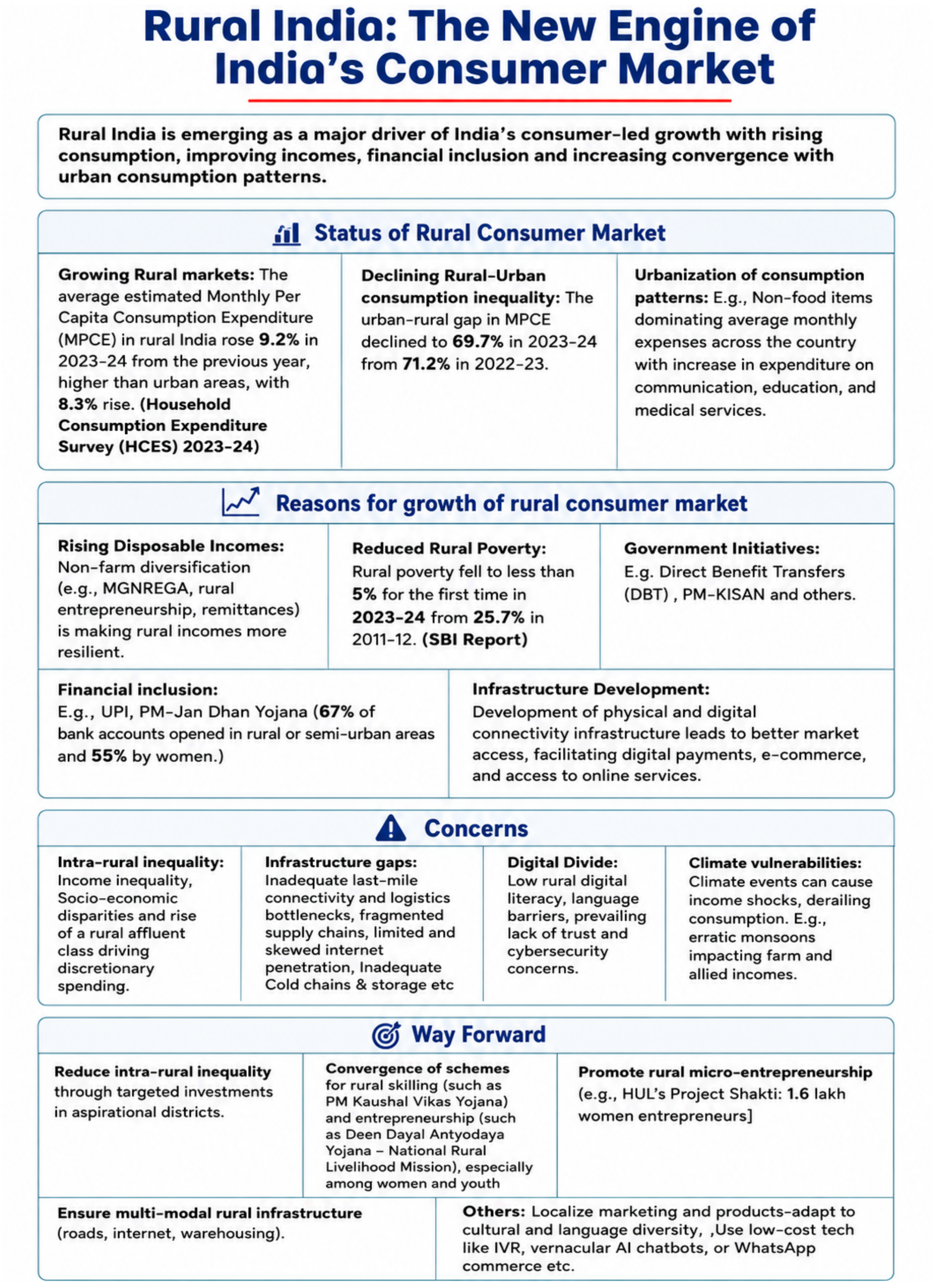
Government's Initiatives

- **Credit Guarantee Scheme for Microfinance Institutions-2.0 (CGSMFI-2.0):** to provide guarantee cover to Banks/ FIs through National Credit Guarantee Trustee Company Limited (NCGTC) against expected losses on the financial assistance extended by them to NBFC-MFIs and MFIs for on lending to small borrowers.
- **SIDBI's Micro Finance Scheme:** The programme requires participating NGOs/MFIs to provide equity support to access SIDBI finance.
- **Self-Help Group – Bank Linkage Programme (SHG-BLP):** Formulated by NABARD to increase loan volume of SHGs.
- **Pradhan Mantri Mudra Yojana (PMMY):** Providing loans up to 10 lakh to non-corporate, non-farm small/micro enterprises through commercial banks, NBFCs, etc.

Conclusion

With calibrated reforms and effective regulation, microfinance can serve as a powerful instrument for poverty alleviation, rural development, and inclusive growth in line with India's vision of equitable socio-economic transformation.

1.4. RURAL INDIA: THE NEW ENGINE OF INDIA'S CONSUMER MARKET AT A GLANCE



Rural India: The New Engine of India's Consumer Market

Rural India is emerging as a major driver of India's consumer-led growth with rising consumption, improving incomes, financial inclusion and increasing convergence with urban consumption patterns.

Status of Rural Consumer Market

Growing Rural markets: The average estimated Monthly Per Capita Consumption Expenditure (MPCE) in rural India rose **9.2%** in 2023-24 from the previous year, higher than urban areas, with **8.3%** rise. **(Household Consumption Expenditure Survey (HCES) 2023-24)**

Declining Rural-Urban consumption inequality: The urban-rural gap in MPCE declined to **69.7%** in 2023-24 from **71.2%** in 2022-23.

Urbanization of consumption patterns: E.g., Non-food items dominating average monthly expenses across the country with increase in expenditure on communication, education, and medical services.

Reasons for growth of rural consumer market

Rising Disposable Incomes: Non-farm diversification (e.g., MGNREGA, rural entrepreneurship, remittances) is making rural incomes more resilient.

Reduced Rural Poverty: Rural poverty fell to less than **5%** for the first time in **2023-24** from **25.7%** in 2011-12. **(SBI Report)**

Government Initiatives: E.g. Direct Benefit Transfers (DBT) , PM-KISAN and others.

Financial inclusion: E.g., UPI, PM-Jan Dhan Yojana (**67%** of bank accounts opened in rural or semi-urban areas and **55%** by women.)

Infrastructure Development: Development of physical and digital connectivity infrastructure leads to better market access, facilitating digital payments, e-commerce, and access to online services.

Concerns

Intra-rural inequality: Income inequality, Socio-economic disparities and rise of a rural affluent class driving discretionary spending.

Infrastructure gaps: Inadequate last-mile connectivity and logistics bottlenecks, fragmented supply chains, limited and skewed internet penetration, Inadequate Cold chains & storage etc

Digital Divide: Low rural digital literacy, language barriers, prevailing lack of trust and cybersecurity concerns.

Climate vulnerabilities: Climate events can cause income shocks, derailing consumption. E.g., erratic monsoons impacting farm and allied incomes.

Way Forward

Reduce intra-rural inequality through targeted investments in aspirational districts.

Convergence of schemes for rural skilling (such as PM Kaushal Vikas Yojana) and entrepreneurship (such as Deen Dayal Antyodaya Yojana – National Rural Livelihood Mission), especially among women and youth

Promote rural micro-entrepreneurship (e.g., HUL's Project Shakti: **1.6 lakh** women entrepreneurs]

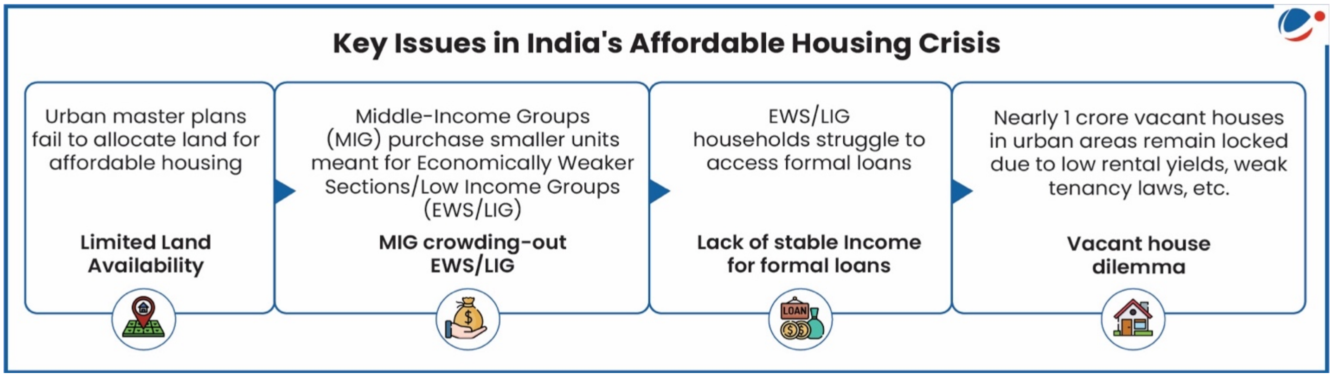
Ensure multi-modal rural infrastructure (roads, internet, warehousing).

Others: Localize marketing and products-adapt to cultural and language diversity, ,Use low-cost tech like IVR, vernacular AI chatbots, or WhatsApp commerce etc.

1.5. AFFORDABLE HOUSING

Why in the News?

NITI Aayog released ‘A Comprehensive Framework to Promote Affordable Housing’ Report.



Key Issues in India's Affordable Housing Crisis

Urban master plans fail to allocate land for affordable housing

Limited Land Availability

Middle-Income Groups (MIG) purchase smaller units meant for Economically Weaker Sections/Low Income Groups (EWS/LIG)

MIG crowding-out EWS/LIG

EWS/LIG households struggle to access formal loans

Lack of stable Income for formal loans

Nearly 1 crore vacant houses in urban areas remain locked due to low rental yields, weak tenancy laws, etc.

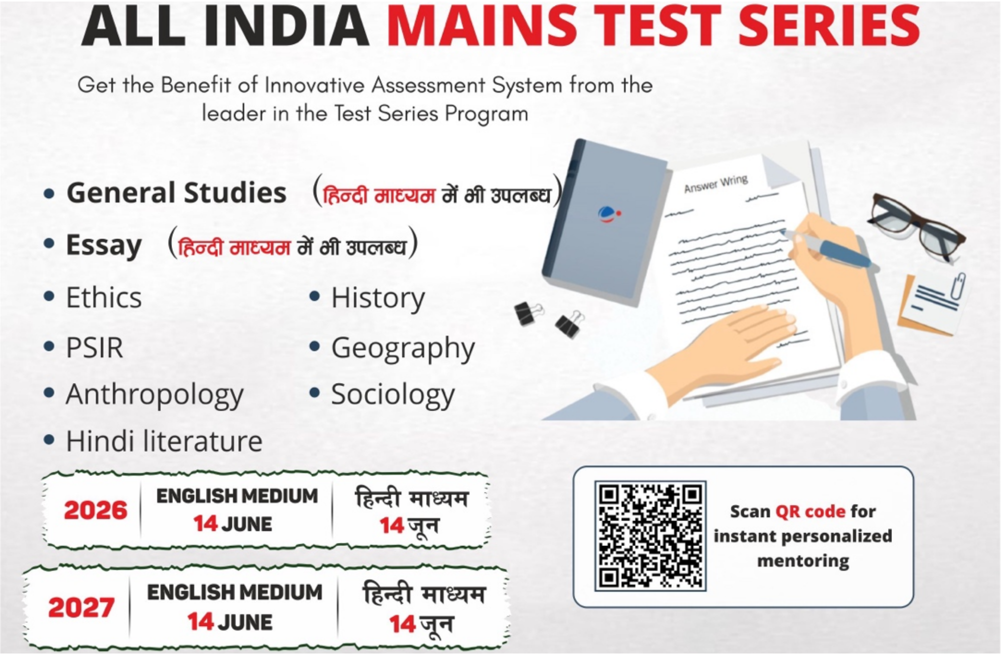
Vacant house dilemma

Key Recommendations on Affordable Housing

- **Zoning Reforms:** Designate **Affordable Housing Zones within city Master Plans and Town Planning Schemes,** with at least 10% of all residential land marked for affordable housing E.g. **Vienna and South Korea** adopts such approach.
- **Transit-oriented development (TOD):** Cities should **earmark areas near metro and mass transit stations** exclusively for mixed-use development, combining offices, commercial spaces, and affordable housing.
- **Reservation for EWS/LIG housing:** Mandatory **reservation of 10-15% of the built-up area for EWS/LIG housing** in all housing & commercial projects exceeding 10,000 sqm built-up area or 5,000 sqm plot area.
- **Reforms in rental housing legal framework**: States should adopt **dedicated rental housing stock policies through Public–Private Partnership (PPP) models**, in line with PMAY-U 2.0 Affordable Rental Housing (ARH) vertical.

Conclusion

Affordable housing is central to achieving inclusive and sustainable urbanization in India. By combining land-use reforms, transit-oriented development, rental housing expansion, and mandatory inclusion of EWS/LIG housing, India can move closer to the goal of ensuring dignified, accessible, and affordable housing for all.



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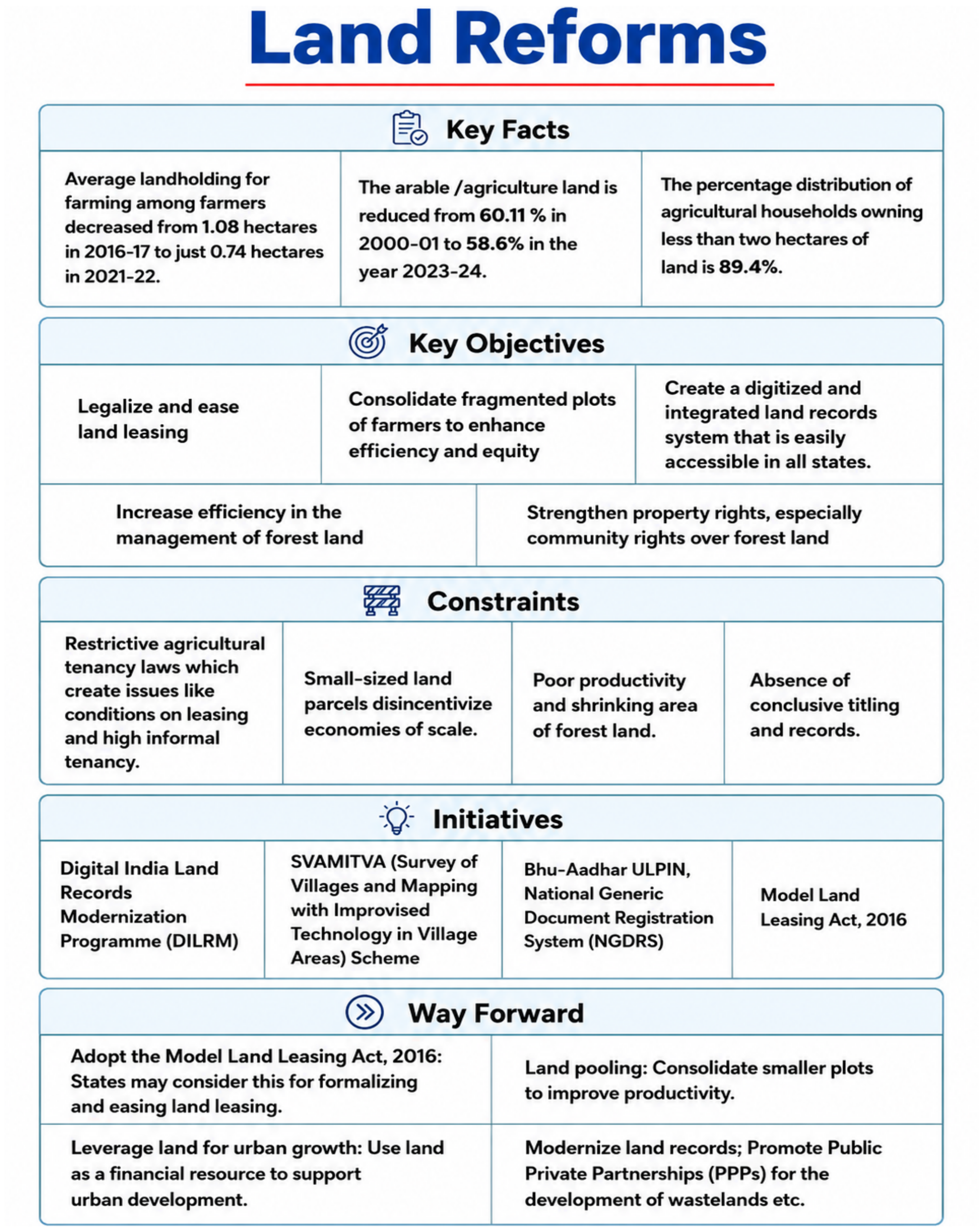
1.6. LAND REFORM AT A GLANCE



Land Reforms

Key Facts

Average landholding for farming among farmers decreased from 1.08 hectares in 2016-17 to just 0.74 hectares in 2021-22.	The arable /agriculture land is reduced from **60.11 %** in 2000-01 to **58.6%** in the year 2023-24.	The percentage distribution of agricultural households owning less than two hectares of land is **89.4%**.

Key Objectives

Legalize and ease land leasing	Consolidate fragmented plots of farmers to enhance efficiency and equity	Create a digitized and integrated land records system that is easily accessible in all states.

Increase efficiency in the management of forest land	Strengthen property rights, especially community rights over forest land

Constraints

Restrictive agricultural tenancy laws which create issues like conditions on leasing and high informal tenancy.	Small-sized land parcels disincentivize economies of scale.	Poor productivity and shrinking area of forest land.	Absence of conclusive titling and records.

Initiatives

Digital India Land Records Modernization Programme (DILRM)	SVAMITVA (Survey of Villages and Mapping with Improvised Technology in Village Areas) Scheme	Bhu-Aadhar ULPIN, National Generic Document Registration System (NGDRS)	Model Land Leasing Act, 2016

Way Forward

Adopt the Model Land Leasing Act, 2016: States may consider this for formalizing and easing land leasing.	Land pooling: Consolidate smaller plots to improve productivity.
Leverage land for urban growth: Use land as a financial resource to support urban development.	Modernize land records; Promote Public Private Partnerships (PPPs) for the development of wastelands etc.

1.7. KEYWORD

Key Words				
Consumer Price Index (CPI)	Base Year	Inflation Targeting	Household Consumption Expenditure Survey	Double Deflation
Chain-Weighted System	Private Final Consumption Expenditure	Multidimensional Poverty	Financial Inclusion	Microfinance Institutions
Gross Loan Portfolio	Affordable Housing	Digital India Land Records Modernization Programme	Wholesale Price Index	Supply and Use Tables
Direct Benefit Transfer				

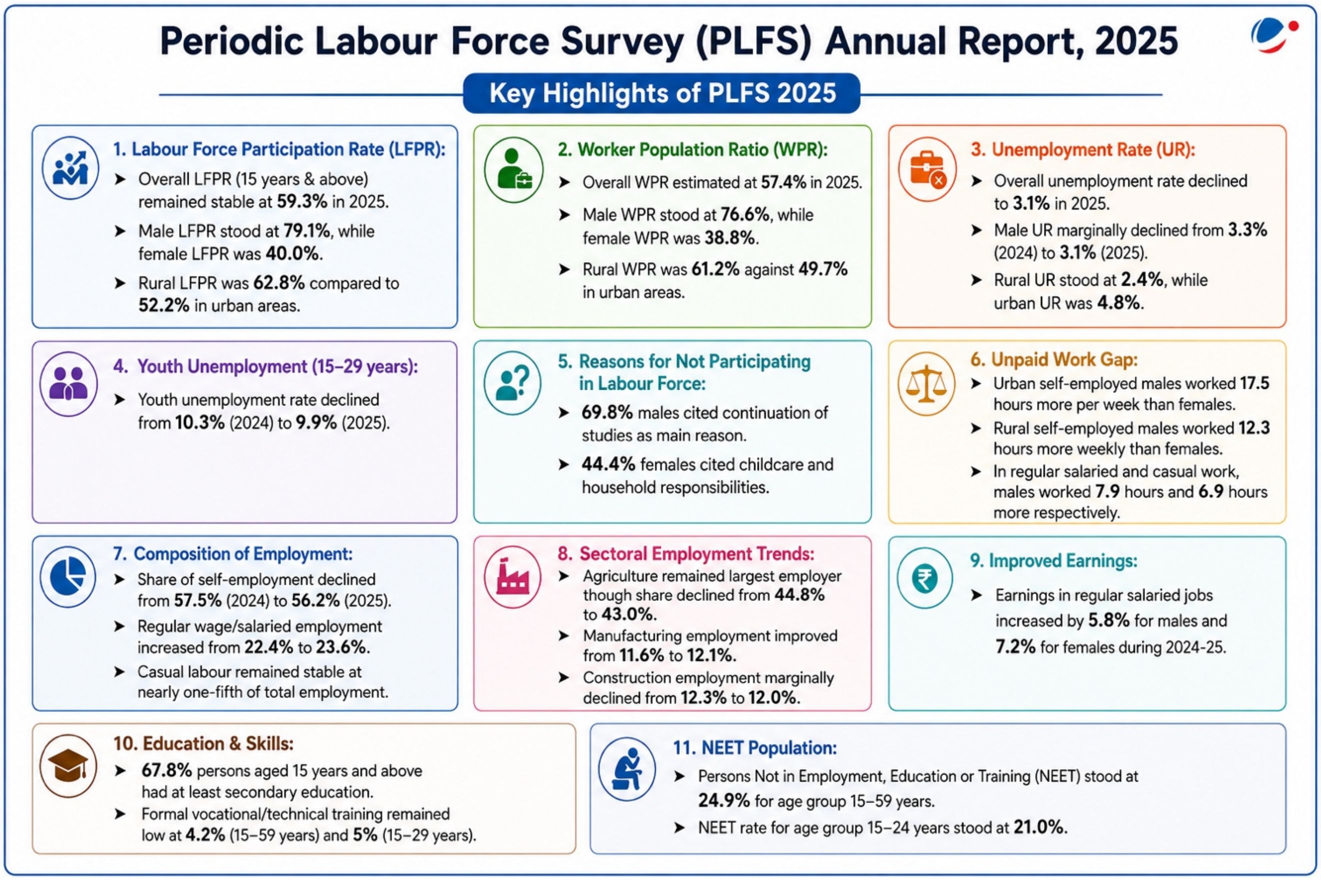
1.8. PRACTICE QUESTION

Discuss the major challenges in achieving inclusive and sustainable economic development in India. Examine the policy initiatives undertaken to address poverty, inequality, financial exclusion, housing, and land-related issues, and suggest further measures required.

Introduction	Body Part 1	Body Part-2	Conclusion
Introduce inclusive and sustainable economic development with reference to poverty, inequality and financial inclusion.	Mention key challenges such as poverty, inequality, financial exclusion, housing shortage and fragmented landholdings.	Mention major government initiatives and suggest reforms for inclusive growth and better implementation.	Conclude with the need for equitable, data-driven and sustainable economic development.

2. EMPLOYMENT, LABOUR AND SKILL DEVELOPMENT

2.1. PERIODIC LABOUR FORCE SURVEY (PLFS) ANNUAL REPORT, 2025



Periodic Labour Force Survey (PLFS) Annual Report, 2025

Key Highlights of PLFS 2025

1. Labour Force Participation Rate (LFPR):
- Overall LFPR (15 years & above) remained stable at **59.3%** in 2025.
- Male LFPR stood at **79.1%**, while female LFPR was **40.0%**.
- Rural LFPR was **62.8%** compared to **52.2%** in urban areas.

2. Worker Population Ratio (WPR):
- Overall WPR estimated at **57.4%** in 2025.
- Male WPR stood at **76.6%**, while female WPR was **38.8%**.
- Rural WPR was **61.2%** against **49.7%** in urban areas.

3. Unemployment Rate (UR):
- Overall unemployment rate declined to **3.1%** in 2025.
- Male UR marginally declined from **3.3%** (2024) to **3.1%** (2025).
- Rural UR stood at **2.4%**, while urban UR was **4.8%**.

4. Youth Unemployment (15–29 years):
- Youth unemployment rate declined from **10.3%** (2024) to **9.9%** (2025).

5. Reasons for Not Participating in Labour Force:
- **69.8%** males cited continuation of studies as main reason.
- **44.4%** females cited childcare and household responsibilities.

6. Unpaid Work Gap:
- Urban self-employed males worked **17.5** hours more per week than females.
- Rural self-employed males worked **12.3** hours more weekly than females.
- In regular salaried and casual work, males worked **7.9** hours and **6.9** hours more respectively.

7. Composition of Employment:
- Share of self-employment declined from **57.5%** (2024) to **56.2%** (2025).
- Regular wage/salaried employment increased from **22.4%** to **23.6%**.
- Casual labour remained stable at nearly one-fifth of total employment.

8. Sectoral Employment Trends:
- Agriculture remained largest employer though share declined from **44.8%** to **43.0%**.
- Manufacturing employment improved from **11.6%** to **12.1%**.
- Construction employment marginally declined from **12.3%** to **12.0%**.

9. Improved Earnings:
- Earnings in regular salaried jobs increased by **5.8%** for males and **7.2%** for females during 2024-25.

10. Education & Skills:
- **67.8%** persons aged 15 years and above had at least secondary education.
- Formal vocational/technical training remained low at **4.2%** (15–59 years) and **5%** (15–29 years).

11. NEET Population:
- Persons Not in Employment, Education or Training (NEET) stood at **24.9%** for age group 15–59 years.
- NEET rate for age group 15–24 years stood at **21.0%**.

2.2. IMPLEMENTATION OF LABOUR CODES

Why in the news?

Recently **Ministry of Labour and Employment** brought into force the **4 Labour Codes** almost 5 years after being cleared in Parliament.

More on the News

- These codes are the **Code on Wages, Industrial Relations Code, Code on Social Security, and Occupational Safety, Health and Working Conditions Code**.
- These codes consolidate **29 existing central labour laws.**

Need for Labour reform

- **Simplifying compliance: The 2nd National Commission on Labour** highlighted the multiplicity of labour laws leading to difficulty in compliance and advocated for consolidation into 4 or 5 comprehensive labour Codes.
- **Modernisation of Archaic Laws**: Many previous laws originated in colonial or early post-independence and were outdated for contemporary economic and technological realities.

  - **Eg**, **Payment of Wages Act, 1936,** which governed how and when wages were paid, applied only to employees earning up to a certain wage limit (24000 Rs/month).
- **Universal Coverage Gap**: Approximately 90% of workers work in unorganized sector and traditionally lacked access to social security benefits and comprehensive labour protections.
- **Addressing New Work Forms**: The reforms were crucial to formally recognise and provide social security to categories like **gig and platform workers**, and **inter-state migrant workers.**

2.2.1. THE CODE ON WAGES, 2019

Consolidates four laws relating to wages and remuneration.

Aim: To strengthen workers' rights while promoting simplicity and uniformity in wage-related compliance for employers.

- **Key Provisions**
  - **Universal Minimum Wages:** The Code establishes a statutory right to minimum wages for all employees across both organized and unorganized sectors.
    - **Criteria for Wage Fixation**: Skill levels, geographic areas, and job conditions such as temperature, humidity, or hazardous environments.
  - **Compensation:** Mandates timely payment and provides for overtime compensation at least 2x the normal rate.

Merits/significance	Concerns/Demerits
• **Reduced Regional Disparity:** As it allows Central govt to fix **National Floor Wage** based on minimum living standards. • **Ensures Gender Equality:** Equal wages and working conditions across genders (including transgenders). • **Establishes Trust based ecosystem:** By Decriminalization of Offences i.e. it replaces imprisonment for some 1st-time offences with monetary fines.	• **Implementation:** The success of the provisions hinges on effective implementation, especially in the informal and rural sectors. • **Federal Rights:** May be impacted as right to decide minimum wages in the States will be impacted due to national floor wage.

2.2.2. THE INDUSTRIAL RELATIONS CODE, 2020

Incorporates three laws relating to dispute resolution, industrial relations, etc.

Aim: To simplify laws related to trade unions, conditions of employment in industrial establishment or undertaking, investigation and settlement of industrial disputes.

- **Key provisions**
  - **Trade Unions:** Now requires **51% membership** to be recognised as the sole negotiating union, streamlining the negotiation process.
    - In case of more than 1 trade union, negotiating council will be formed with representatives of unions having 20 % of workers as members.
  - **Fixed-Term Employment (FTE):** Explicitly institutionalises FTE, intended to reduce excessive contractualisation and offers cost efficiency to employers.
  - **Expanded Worker Definition:** Covers sales promotion staff, journalists, and supervisory employees earning up to ₹18,000/month.
  - **Higher Threshold for Lay-off/Retrenchment/Closure:** Approval limit raised from 100 to 300 workers; States may enhance the limit further.

Merits	Demerits
• **Boost skills: e.g.** Re-skilling Fund, in which employers pays 15 days' wages for every worker retrenched for retraining them.	• **A higher threshold for removal:** It can lead to a hire and fire policy.

Simplified Dispute Resolution and Grievance Handling- The Codes provide for **establishing Internal Grievance Redressal Committees (IGRCs)** for establishments employing 20 or more workers	**Permanent temporariness:** FTEs can replace permanent employment with short-term contracts. **Weakening collective bargaining strength of workers**: 51% threshold risks marginalising smaller unions and centralizing bargaining power.

2.2.3. THE CODE ON SOCIAL SECURITY, 2020

Incorporates nine existing social security laws.

Aim: To **extend social security to all workers,** including unorganized, gig, and platform workers.

- **Key Provisions**
  - **Gig and Platform Workers and aggregator:** Legally defined for the 1st time.
    - Aggregators to contribute **1-2% of annual turnover** (max 5% of payments to workers) to the **social security fund.**
  - **Expanded ESIC (Employees' State Insurance) Coverage:** ESIC now applies pan-India, eliminating the criteria of "notified areas."
    - Coverage would be mandated for **hazardous occupation and extended to plantation workers.**
  - **Uniform Definition of Wages:** "Wages" now include basic pay, dearness allowance, and retaining allowance.
    - 50% of the total remuneration (or such percentage as may be notified) shall be added back to compute wages, ensuring consistency in calculating gratuity, pension, and social security benefits.
  - **Gratuity for Fixed-Term Employees:** Fixed-term employees become eligible for gratuity after one year of continuous service (earlier five years).

Merits	Demerits
National Database for Unorganized Workers: Provides for **creating a national digital platform (NDUW) with registration and skill details of unorganized workers.** **Expanded social security**: As both **organised** and **unorganised** workers are covered.	**Lack of clarity** on funding mechanisms of social security fund **Lack of Universal social security:** The coverage of schemes remains dependent on establishment size thresholds. ○ For ESIC- Establishments with fewer than 10 employees may voluntarily opt in.

2.2.4. THE OCCUPATIONAL SAFETY, HEALTH, AND WORKING CONDITIONS CODE, 2020 (OSHWC)

Incorporates 13 central laws, focusing on improving workplace safety, health, and working conditions.

Aim: To balance the twin objectives of **safeguarding worker rights and safe working conditions, and creating a business-friendly regulatory environment.**

- **Key Provisions**
  - **Unified Registration:** A uniform threshold of 10 employees is set for electronic registration.
  - **Extension to Hazardous Work:** The Government can extend the Code's provisions to any establishment, even with one employee, engaged in hazardous or life-threatening occupations.
  - **Wider Definition of Migrant Workers:** The definition of inter-state migrant workers (ISMW) now covers workers employed directly, through contractors, or migrate on their own.
  - **Women's Employment:** Women can work in all types of establishments and during night hours (before 6AM, beyond 7PM) with consent and safety measures.

  - **National Occupational Safety & Health Advisory Board:** A single tripartite advisory board replaces six earlier boards to set national safety and health standards across sectors, ensuring uniformity and quality.
  - **Contract Labour:** Norms apply to contractors with 50+ workers (earlier 20), and employers are allowed to engage contract labour even in defined core activities such as sanitation, subject to conditions.

Merits	Demerits
• **Strengthened workers right: E.g.,** working hours capped at 8 hrs in a day & 48 hrs a week. • **Transparency and accountability:** Mandatory appointment letters to all workers through online mechanisms • **Boost Female labour force participation:** Permits women to work in all types of units, including **night shifts** subject to their consent and mandatory safety protocols.	• **Narrowed Coverage**: Threshold for factory licence raised (10 to 20 workers with power, and to 40 in without power) can exclude many small units from safety compliance requirements. • **Oversight Gaps**: The shift towards self-certification by employers, risks underreporting of violations and inadequate enforcement of safety standards.

Conclusion

The new Labour Codes represent a major reform in India's labour system by balancing worker welfare with business efficiency. They simplify compliance, improve safety, and ensure fair wages, while promoting a more transparent and growth-oriented economy.

2.3. WORKERS PROTESTS

Why in the News?

Recent spontaneous and sometimes violent Protests by factory Workers across Key Industrial Hubs such as in Barauni (Bihar), Surat (Gujarat), Manesar (Haryana), and Noida (Uttar Pradesh) have created concerns.

Key Reasons for Workers' Protests in India

- **Unchecked Contractualization:** To slash operational costs, employers have embraced third-party labour, pushing the share of contractual workers in manufacturing to 42% in **2023–24 (Annual Survey of Industries).**
- **Scale of informality:** Over 90 per cent of workers are employed in the informal sector, mostly in tiny, unregistered enterprises with virtually no social protection.
  - The e-Shram Survey illustrates that **the informal non-agricultural sector alone employs over 150 million workers** and continues to expand post-pandemic.
- **Issues concerning Labour Laws:** Code on Wages creates a National Floor Wage and National Minimum Wage, but offers no clear methodology for setting either.
- **Regulatory failure:** According to an analysis of the **Periodic Labour Force Survey (PLFS) data for 2023–24,** nearly 64 per cent of Indian workers earn less than the minimum wage, even when mandated by law.
- **Issues with Trade Unions:** The existence of multiple trade unions in the same industry creates conflict amongst them.

Issues with recent labour reforms

- **Failure to Deliver Promised Wage Hikes:** Although the Code on Wages aims to reduce wage inequality, through national floor wage but anticipated upward **revisions to minimum wages** have not materialized in practice yet.
- **Delayed operationalisation of provisions:** Such as for gig and platform workers, **including the establishment of a functional Social Security Fund,** notification of contribution rates, and design of a tangible benefit scheme under the Code on Social Security (2020).

- **Higher layoff threshold:** The threshold for government approval before layoffs/retrenchment increased from **100 to 300 workers,** making it easier for companies to fire employees.
- **Stringent Strike Conditions:** The new framework makes executing a legal strike exceptionally difficult, **mandating a 14-day notice period** for all industrial establishments before striking.
- **Uneven State-Level Notification:** As labour is a subject on the **Concurrent List**; both the central and state governments must notify their respective rules for the codes to fully come into effect.

Way forward

- **Re-establishing Robust Tripartite Dialogue:** On the line of The ILO's Tripartite Consultation Convention (No. 144), adopted in 1976, revive and formalize the Indian Labour Conference (ILC).
- **Careful Calibration of Wage Policy:** To address real wage erosion, authorities must establish a binding yet sustainable national floor wage.
  - **Anoop Satpathy Committee's methodology** of 2018, which recommended a national minimum wage can be implemented with some modifications by taking inflation into consideration.
- **Participation of workers in governance:** The German **model of Co-determination & works council** can be promoted to institutionalize worker participation in corporate governance.
- **Improving conditions for workers:** Strict adherence to the **8-hour workday, double pay for overtime, equal pay for equal work**, and better working conditions can be implemented.
- **Address increased Contractualization: India can adopt the "Flexicurity" Model** of Denmark. It combines high labour market flexibility for employers (easy hiring and firing to stay competitive) with deep social security cushions for workers (high unemployment benefits).

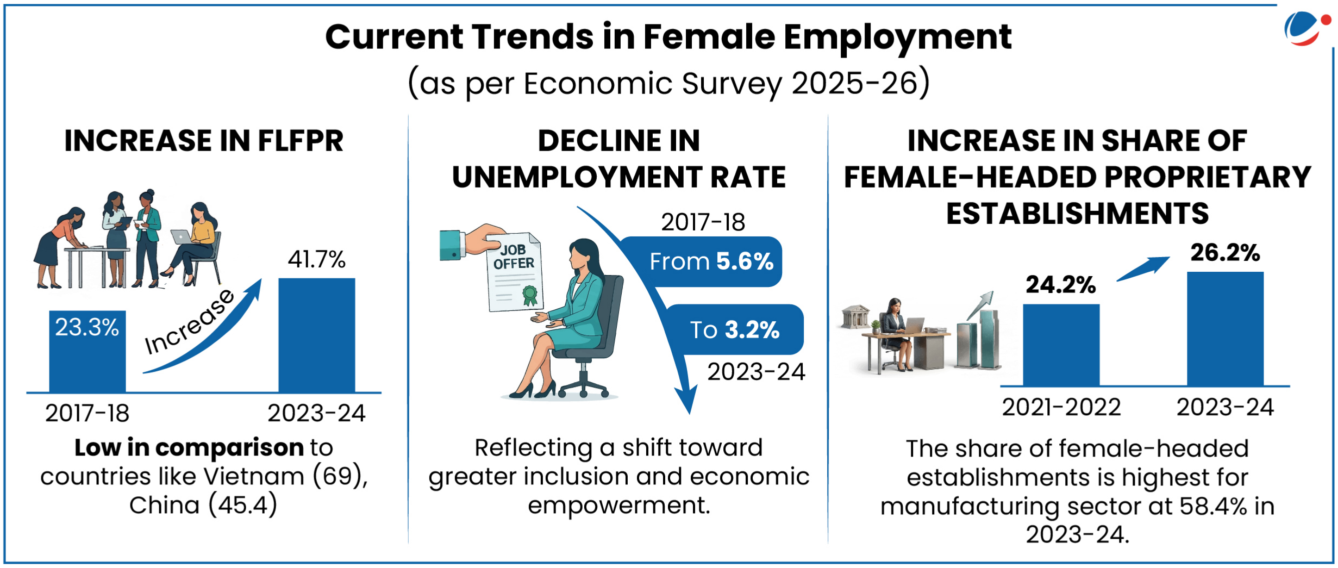
Conclusion

India's recent worker protests are not merely episodes of industrial unrest; they are a warning that economic growth cannot remain durable if it is built on insecure work, weak enforcement, and delayed labour protections. The real test of labour reform now lies not in legislative consolidation, but in creating a system where flexibility for industry is matched by fairness, dignity, and social security for workers.

2.4. FEMALE LABOUR FORCE PARTICIPATION IN INDIA

Why in the News?

As per **Economic Survey 2025-26,** increasing **Female Labour Force Participation Rate (FLFPR)** participation to **~55% by the 2050** could be critical for maintaining a high annual GDP growth trajectory.


Current Trends in Female Employment
(as per Economic Survey 2025-26)

INCREASE IN FLFPR

Low in comparison to countries like Vietnam (69), China (45.4)

DECLINE IN UNEMPLOYMENT RATE

Reflecting a shift toward greater inclusion and economic empowerment.

INCREASE IN SHARE OF FEMALE-HEADED PROPRIETARY ESTABLISHMENTS

The share of female-headed establishments is highest for manufacturing sector at 58.4% in 2023-24.

As per WEF's **Global Gender Gap Report 2025**, **India slipped 2 places** (131 in2025 from 129 in 2024) and ranked in **bottom 5** of Economic Participation and Opportunity subindex, highlighting significance of enhancing FLFPR in India.

Reasons for Low Employment among Women

- **Claudia Goldin's U-curve (Nobel Prize 2023):** It demonstrates that women's participation in the labour market is influenced by Social Norms/Legislative gaps, Parenthood Effect and Technological Innovations.
    - It says that the **FLFPR drops during early industrialisation** (women leave agriculture but lack factory-ready skills/social permission) and **rises again only when education levels cross a threshold** and service-sector jobs expand.
- **Limited access to STEM careers**: In India, women constitute 43% of STEM graduates, but only an estimated 27% participate in the STEM (Science, Technology, Engineering, and Mathematics) workforce.
- **Mobility-related barriers:** According to a World Bank study (2021), 31% of women cited commuting as a barrier to working.
    - **13% and 19%** women reported childcare responsibilities and domestic duties respectively as barriers to commuting for work.
- **Inflexible work arrangements:** Women's caregiving role demands flexible work arrangements.
    - E.g., 41% of females aged 15-59 years participated in caregiving for their household members (21.4% for males).
- **Unpaid labour:** Women spent 363 min/day on unpaid work vs. 123 min/day for men.
- **Low share in gig economy:** As per estimates, women currently make up 28% of platform economy workers and face barriers like safety risks; lack of maternity leave and welfare benefit; Gender segmentation etc.

Measures taken to Enhance Women Employment

- **Provisions under the Labour Codes:**
    - Proportionate representation of women in **Grievance Redressal Committee**.
    - Up to **26 weeks of paid maternity leave,** along with 12 weeks for adoptive and commissioning mothers.
    - **Prohibiting gender-based discrimination** in wages and conditions of employment.
    - **Promoting creche facilities** for children below six.
    - Adequate safeguards by establishments before **engaging women in any hazardous or dangerous processes.**
- **Safety at Workplace:** Initiatives like **"She-Box"** by **Ministry of Women and Child Development** encompassing various provisions of **'Sexual Harassment of Women at Workplace (Prevention, Prohibition, and Redressal) Act, 2013'.**
- **SHE-Mart initiative:** Launched in **Union Budget 2026-27,** to provide better markets for products made by **self-help groups and rural women.**
- **Expanding employment opportunities for women:**
    - **Removal of Prohibitions** on women's employment in designated 'hazardous' industries by 17 states/UTs.
    - **Permitting night-time work for women** in factories by around 22 states/UTs, as well as in commercial establishments by 33 states/UTs.

Way Forward: Recommended Measures to Enhance Female LFPR

- **Extending safety infrastructure and providing affordable intermediate transport:**
    - **Boosting women police visibility**. E.g., Kochi's Women Police Control Room vans and Hyderabad's SHE Teams.
    - **Gender-responsive walking/cycling infrastructure** with lighting and safe crossings. E.g., Chennai's inclusive street design manual.
- **Women centric industrial clusters and manufacturing:** E.g., Sakhi Niwas scheme of the Ministry of Women and Child Development creates a supportive ecosystem for women navigating work and mobility.

- **Affordable housing:** E.g., Tamil Nadu's Working Women's Hostels Corporation ('Thozhi Hostels').
- **Easing unpaid care burden**:
    - **Bridge re-entry barriers**: E.g., initiatives such as 'Back to Work' and 'Returnship programmes' for women re-entering workforce.
    - **Promote flexible work, hybrid models, and gender-responsive standards**: E.g., newly enacted Labour Codes allow women workers to work from home after availing themselves of the maternity benefit.
- **Public-private partnership**: E.g., Telangana's WE-Hub connects women with start-up ecosystems and investors.
- **Other measures:** Encouraging women's participation in STEM disciplines; expanding the network of Anganwadi centres; integrating community crèches; incentivising employer-linked childcare; etc.

Conclusion

Women's labour participation is central to India's long-term economic transformation and achieving SDG 5 (gender equality and empower all women and girls). Higher female employment supports fairer labour market outcomes, strengthens household welfare and contributes to building a more inclusive, resilient, and productive economy on the path to Viksit Bharat by 2047.

2.4.1. LAKHPATI DIDI

Why in the News?

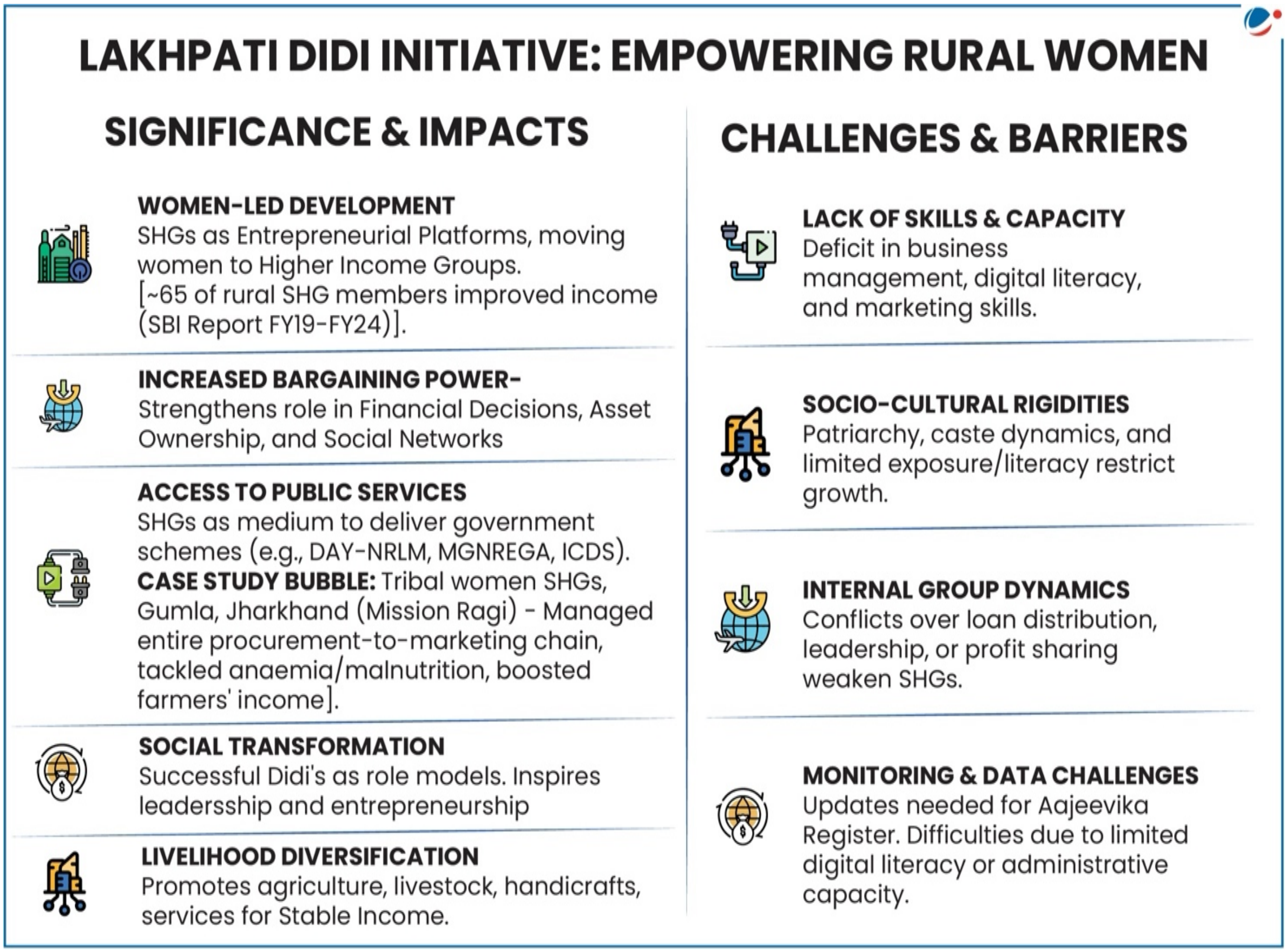
The government has achieved the milestone of 3 crore Lakhpati Didis a year ahead of the March 2027 target and has now set a new goal of 6 crore by March 2029.

About Lakhpati Didi Initiative

- **Objective**: Enable women associated with SHGs to earn a sustainable annual household income above ₹1 lakh.
- **Ministry:** Ministry of Rural Development.
- **Launched:** in 2023 under **the Deendayal Antyodaya Yojana – National Rural Livelihoods Mission (DAY-NRLM).**
- A Lakhpati Didi is a **woman member** of a **SHG** who **earns more than ₹1,00,000** annual household income.

Financial Assistance under the Lakhpati Didi Initiative

Fund/Programme	Purpose
Revolving Fund (RF)	• Catalyse internal lending, meet immediate credit needs • **Amount/Support:** Rs. 20,000 to Rs. 30,000 per eligible SHG
Community Investment Fund (CIF)	• Strengthen creditworthiness, improve financial management • **Amount/Support:** Up to ₹2.5 lakh per SHG
Capitalization Support	• Collateral-free loans, interest subvention, overdraft facility • **Amount/Support:** Up to ₹20 lakh per SHG ○ Interest subvention on loans up to ₹3 lakh at 7% interest, and ₹5,000 overdraft facility for SHG members with Jan-Dhan accounts.
Women Enterprise Acceleration Fund	• Credit guarantee, collateral support, incentives • **Amount/Support:** Up to ₹5 lakh (individual), up to ₹2 crore (collective), up to ₹25 lakh (incentives)
Community Enterprise Fund (CEF)	• Support individual/group enterprises • **Programmes:** SVEP, OSF, clusters, incubators



LAKHPATI DIDI INITIATIVE: EMPOWERING RURAL WOMEN

SIGNIFICANCE & IMPACTS

WOMEN-LED DEVELOPMENT
SHGs as Entrepreneurial Platforms, moving women to Higher Income Groups. [~65 of rural SHG members improved income (SBI Report FY19-FY24)].

INCREASED BARGAINING POWER-
Strengthens role in Financial Decisions, Asset Ownership, and Social Networks

ACCESS TO PUBLIC SERVICES
SHGs as medium to deliver government schemes (e.g., DAY-NRLM, MGNREGA, ICDS). **CASE STUDY BUBBLE:** Tribal women SHGs, Gumla, Jharkhand (Mission Ragi) - Managed entire procurement-to-marketing chain, tackled anaemia/malnutrition, boosted farmers' income].

SOCIAL TRANSFORMATION
Successful Didi's as role models. Inspires leaderssship and entrepreneurship

LIVELIHOOD DIVERSIFICATION
Promotes agriculture, livestock, handicrafts, services for Stable Income.

CHALLENGES & BARRIERS

LACK OF SKILLS & CAPACITY
Deficit in business management, digital literacy, and marketing skills.

SOCIO-CULTURAL RIGIDITIES
Patriarchy, caste dynamics, and limited exposure/literacy restrict growth.

INTERNAL GROUP DYNAMICS
Conflicts over loan distribution, leadership, or profit sharing weaken SHGs.

MONITORING & DATA CHALLENGES
Updates needed for Aajeevika Register. Difficulties due to limited digital literacy or administrative capacity.

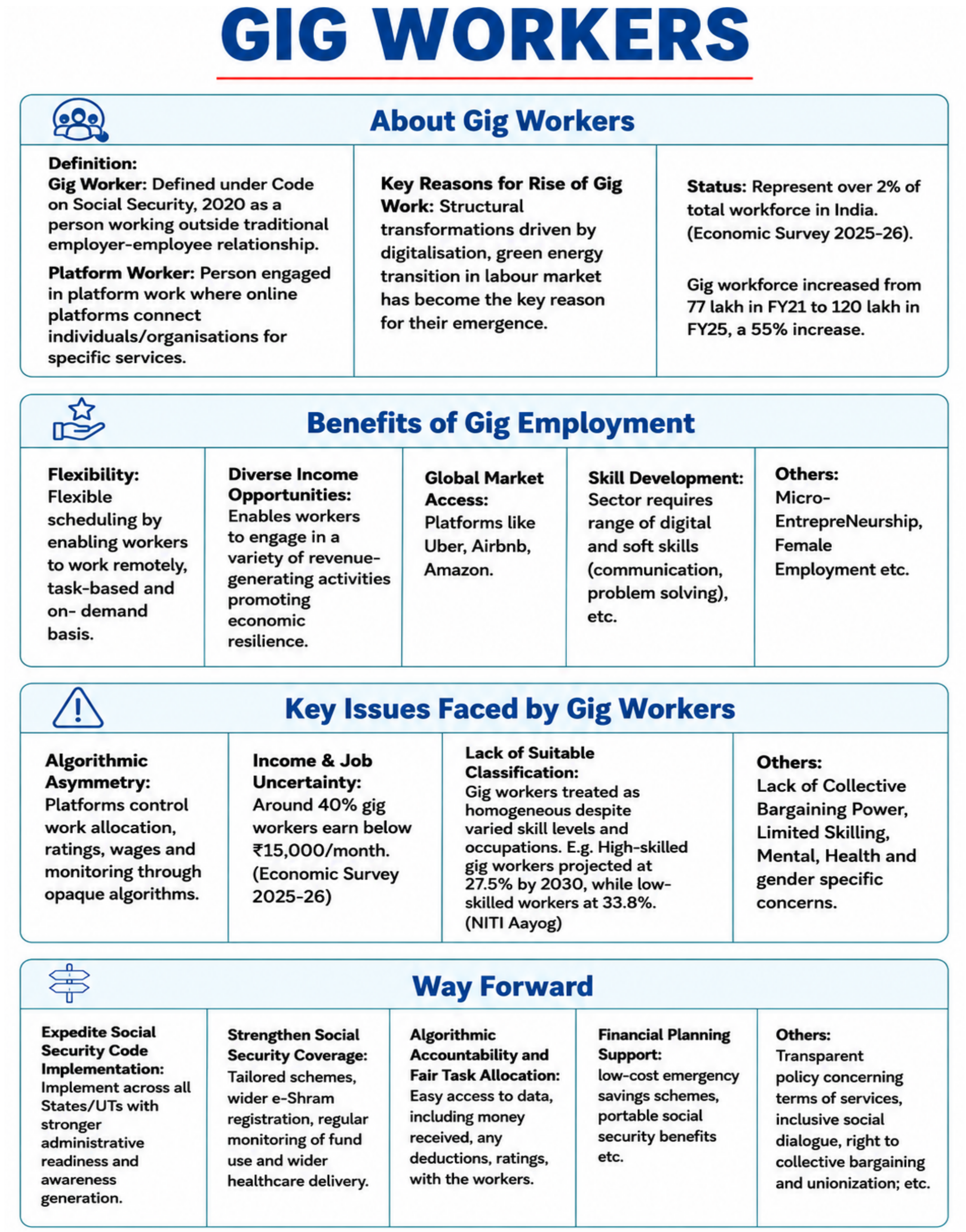
Way Ahead

- **Strengthen Access to Finance**: Expansion of **Business Correspondent (BC) Sakhis** providing doorstep banking has improved credit access for SHGs and reduced loan **NPAs to around 1.76%. (Rural Development Ministry).**
- **Strengthen Institutional Support**: Improve coordination between government departments, financial institutions, NGOs, and private sector **partners for better governance.**
- **Technological advancemen**t: Promote the use of technology **in SHG operations by enhancing digital literacy and access. E.g., Project EShakti by NABARD.**
- **Leverage Artificial Intelligence:** AI-driven tools help SHGs move beyond manual record-keeping. They analyze group savings and repayment patterns to predict credit needs and identify members ready for larger enterprise loans.
- **Regional focus:** Target initiatives like the scheme for promoting Women SHGs (WSHGs) **in backward and LWE-affected districts.**

Conclusion

The Lakhpati Didi initiative demonstrates the transformative potential of women-led self-help groups in rural India. Sustained success will depend on deeper financial inclusion, stronger institutional convergence, technology adoption, and enterprise support so that more women move from subsistence livelihoods to resilient, income-generating entrepreneurship.

2.5. GIG WORKERS AT A GLANCE



GIG WORKERS

About Gig Workers

Definition:
Gig Worker: Defined under Code on Social Security, 2020 as a person working outside traditional employer-employee relationship.

Platform Worker: Person engaged in platform work where online platforms connect individuals/organisations for specific services.

Key Reasons for Rise of Gig Work: Structural transformations driven by digitalisation, green energy transition in labour market has become the key reason for their emergence.

Status: Represent over 2% of total workforce in India. (Economic Survey 2025-26).

Gig workforce increased from 77 lakh in FY21 to 120 lakh in FY25, a 55% increase.

Benefits of Gig Employment

Flexibility: Flexible scheduling by enabling workers to work remotely, task-based and on- demand basis.

Diverse Income Opportunities: Enables workers to engage in a variety of revenue-generating activities promoting economic resilience.

Global Market Access: Platforms like Uber, Airbnb, Amazon.

Skill Development: Sector requires range of digital and soft skills (communication, problem solving), etc.

Others: Micro-EntrepreNeurship, Female Employment etc.

Key Issues Faced by Gig Workers

Algorithmic Asymmetry: Platforms control work allocation, ratings, wages and monitoring through opaque algorithms.

Income & Job Uncertainty: Around 40% gig workers earn below ₹15,000/month. (Economic Survey 2025-26)

Lack of Suitable Classification: Gig workers treated as homogeneous despite varied skill levels and occupations. E.g. High-skilled gig workers projected at 27.5% by 2030, while low-skilled workers at 33.8%. (NITI Aayog)

Others: Lack of Collective Bargaining Power, Limited Skilling, Mental, Health and gender specific concerns.

Way Forward

Expedite Social Security Code Implementation: Implement across all States/UTs with stronger administrative readiness and awareness generation.

Strengthen Social Security Coverage: Tailored schemes, wider e-Shram registration, regular monitoring of fund use and wider healthcare delivery.

Algorithmic Accountability and Fair Task Allocation: Easy access to data, including money received, any deductions, ratings, with the workers.

Financial Planning Support: low-cost emergency savings schemes, portable social security benefits etc.

Others: Transparent policy concerning terms of services, inclusive social dialogue, right to collective bargaining and unionization; etc.

2.6. VIKSIT BHARAT – GUARANTEE FOR ROZGAR AND AJEEVIKA MISSION (GRAMIN) ACT, 2025

Why in the News?

The Parliament enacted **Viksit Bharat – Guarantee for Rozgar and Ajeevika Mission (Gramin) Act, 2025** (**VB-G RAM G**) which seeks to replace the **Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), 2005**.

Key Statutory Provisions

- **Integration into Viksit Bharat National Rural Infrastructure Stack (VB-NRIS)**: Aggregates all works into the **Viksit Bharat National Rural Infrastructure Stack** prioritising water security, rural infrastructure, livelihoods and climate resilience.
- **Viksit Gram Panchayat Plans (VGPP) based planning**: Ensures **Gram Panchayat–led planning** through Viksit Gram Panchayat Plans integrated with **PM Gati Shakti** and national spatial systems.
- **Centrally Sponsored Scheme:** Programme to be implemented as a **CSS** with shared responsibilities between the Centre and States.
- **Normative Allocation**: Provides **objective, rule-based fund allocation** to States with excess expenditure borne by States and equitable intra-State distribution mandated.
- **Special relaxations**: Empowers the Centre to grant **temporary relaxations** during natural calamities or extraordinary situations.
- **Transparency and accountability**: Strengthens oversight through **biometrics, GIS-based planning, real-time monitoring, public disclosures and social audits.**
- **Institutional Oversight**: Establishes **Central and State Gramin Rozgar Guarantee Councils** and steering committees for monitoring and policy guidance.
- **Wage rate specification**: Authorises the Centre to notify wage rates.
- **State schemes within six months**: Mandates States to notify their implementation schemes **within six months** of commencement of the Act.
- **Unemployment allowance**: Obliges States to pay **unemployment allowance** if work is not provided on time, preserving minimum legal guarantees for labour.

Comparison between MGNREGA and VB-G RAM G

Aspect	**MGNREGA**	**Viksit Bharat–G RAM G**
Wage employment guarantee	100 days of wage employment per rural household.	125 days of wage employment per rural household.
Nature of works	Multiple and scattered categories of works with limited strategic focus.	4 clearly defined priority areas focusing on water security, rural infrastructure, livelihoods and climate resilience.
Funding responsibility	Centre bears unskilled wage costs, States bear unemployment allowance.	State cost-sharing for wages: 60:40 for most States, 90:10 for certain special-category regions.
Statutory pause provision	No explicit statutory "pause window".	States can notify up to 60 days in a financial year when work will not be executed.
Funding approach	Demand-based funding with unpredictable allocations.	Normative funding ensuring predictable budgeting while protecting the employment guarantee.

Aspect	MGNREGA	Viksit Bharat–G RAM G
Planning framework	Gram Panchayat planning is central.	Integrates institutionalised convergence and infrastructure planning.

Key concerns with the Act

- **Dilution of Rights-based Framework**: The Act weakens the demand-driven, rights-based character of MGNREGA by shifting towards a supply-driven and capped allocation model.
- **Erosion of Federalism**: Decision-making powers, including normative fund allocation and scheme operationalisation are concentrated with the Union government reducing States to implementing agencies.
  - **Impact on Fiscal Federalism:** Cost-sharing (60:40) and the requirement for States to bear excess expenditure strain State finances, undermining fiscal autonomy.
- **Weakening of Transparency and Public Scrutiny**: The Act lacks clarity on the scope, granularity, and enforceability of public disclosures.
- **Over-Reliance on Digital Systems**: Mandatory use of biometric attendance, GPS monitoring, and digital dashboards may lead to denial of work and wages due to technical failures or exclusions.
- **Risk from Data Protection Regime**: The Digital Personal Data Protection Act, 2023 creates uncertainty over what information will remain in the public domain, potentially restricting access to programme data.

Conclusion

A credible path forward for the VB-G RAM G Act lies not merely in its statutory design but in the spirit of its implementation. If accompanied by robust parliamentary oversight, genuine consultation with States and Panchayats, strong social audit mechanisms, and clear safeguards against digital exclusion, the Act can evolve into a balanced instrument that combines livelihood security with long-term rural asset creation.

2.7. PRADHAN MANTRI KAUSHAL VIKAS YOJANA

Why in the News?

The Comptroller and Auditor General (CAG) recently tabled a performance audit report in Parliament titled "Skill Development under Pradhan Mantri Kaushal Vikas Yojana", flagging serious **data integrity lapses**.

About PMKVY

- **Launched:** 2015 by Ministry of Skill Development and Entrepreneurship (MSDE).
- **Implementing Agency:** National Skill Development Corporation (NSDC).
- **Objectives:** To enable Indian youth to take up **industry-relevant skill training** to secure better livelihoods and to recognize informally acquired skills through certification.
- **Federal Character**: The scheme is managed through Central and State components by earmarking 75 and 25 per cent of physical targets and financial allocations to NSDC and State Skill Development Missions, respectively.
- **Achievements**: Since 2015, over **1.6 crore youth** have been trained nationwide. Across the first three phases, **1.10 crore beneficiaries** received skill certification.

PMKVY Features

- **Training Types** Includes Short-Term Training, Recognition of Prior Learning, and Special Projects.
- **Incentives** Certified candidates receive a monetary reward of ₹500 via Direct Benefit Transfer.
- **Gender Inclusivity** Approximately 45% of candidates are women, highlighting female workforce participation.
- **Technological Shift** PMKVY 4.0 includes future-ready domains like AI, Drone Technology, Robotics, and IoT.
- **Skill India Digital Hub** This platform integrates skilling, education, and employment with Aadhaar-authenticated e-KYC.

Key Issues Highlighted by CAG

- **Low Placement Rates:** Only **41%** of candidates certified under Short Term Training and Special Projects components secured work.
    - **Sector Concentration:** Five sectors (Apparel, Electronics, Retail, Logistics, and Beauty) accounted for over **58% of all placements**.
- **Data Integrity Lapses:** Incorrect bank details for **94.53%** of participants (over 90 lakh cases).
- **Violation of Eligibility Criteria:** Candidates were certified despite ignoring prescribed **age, education, and work-experience** requirements. For example, 1,142 underage candidates were certified for driver/chauffeur roles.
- **Technical Qualification Lapses:** In roles requiring prior technical education, 85.40% of certified candidates possessed only basic literacy.
- **Fund underutilisation:** Approximately **₹337.16 crore** from PMKVY 2.0 remained unutilised as of July 2023. Payouts to over **34 lakh certified candidates** have not been made due to insufficient information.
- **Skill-Gap Discrepancies:** Training is not consistently aligned with the skill requirements identified in the National Policy for Skill Development and Entrepreneurship (NPSDE).
- **Skill Development Planning Deficit:** Phase III envisaged a **National Skill Development Plan** based on state & district plans. **National plan not prepared**; only **2 of 8 selected states** prepared state plans.

Recommendations by CAG

- **Market Alignment:** MSDE should align skill training with **micro-level skill gaps** and job-role demands across states.
- **Strategic Planning:** Expedite the preparation of the **National Skill Development Plan (NSDP)** to provide long-term continuity.
- **Integration with UDISE:** Use the **Unified District Information System for Education (UDISE)** database to better identify and verify school/college dropouts for onboarding.
- **Strict IT Controls:** Enforce mandatory **Aadhaar-based e-KYC** and system validation checks to prevent duplicate or invalid data entries.
- **Enhanced Monitoring:** Establish a **data retention policy** and strengthen oversight of post-training assessment activities.

Conclusion

While PMKVY has built a massive infrastructure for short-term skilling in India, the CAG audit reveals significant systemic vulnerabilities in **data management and outcome tracking**. Transitioning to **PMKVY 4.0** offers an opportunity to rectify these issues by leveraging the **Skill India Digital Hub (SIDH)** for better transparency and ensuring that skilling efforts lead to meaningful employment rather than just certification.

2.8. FUTURE OF WORK

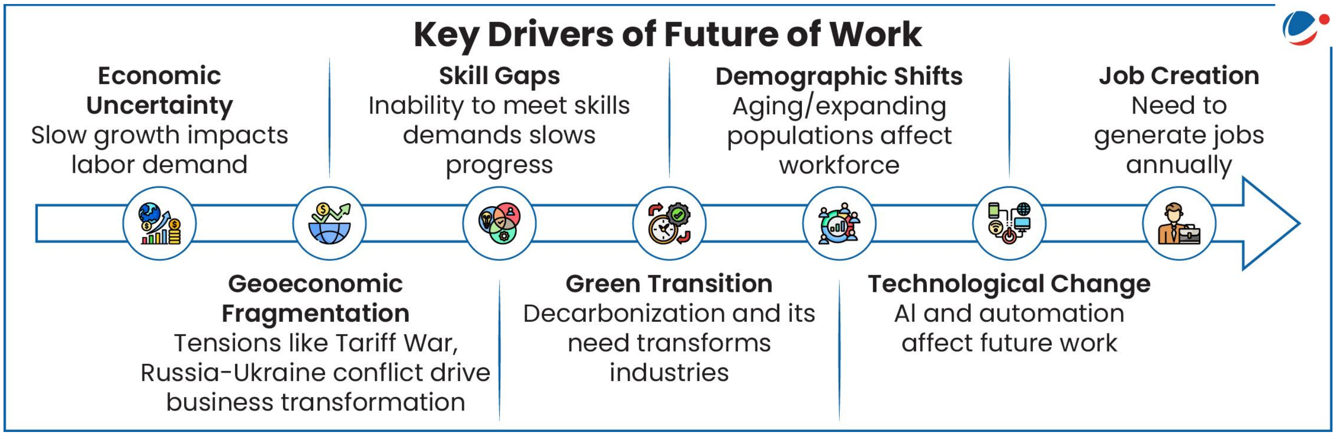
Why in the News?

Tata Consultancy Services (TCS) recent announcement to **lay off 12,000 employees** has raised implications on **Future of Work.**

More about the News

- Many experts have alleged that the **"future of work" is currently marked by significant job displacement due to automation and AI**, leading to increased layoffs across various sectors.

About the Future of Work


Key Drivers of Future of Work
Economic Uncertainty
Slow growth impacts labor demand
Skill Gaps
Inability to meet skills demands slows progress
Demographic Shifts
Aging/expanding populations affect workforce
Job Creation
Need to generate jobs annually
Geoeconomic Fragmentation
Tensions like Tariff War, Russia-Ukraine conflict drive business transformation
Green Transition
Decarbonization and its need transforms industries
Technological Change
AI and automation affect future work

How these drivers impact the Future of Work?

- **Economic Impact**
  - **Shift in job types**: 170 million new jobs are projected. The movement from routine, manual jobs to high-skill, knowledge-based and service-oriented roles. E.g. Big Data Specialists, Fintech Engineers etc.
  - **Vulnerable Jobs**: Microsoft researchers argue that jobs involving writing, research, and communication, such as translators, journalists, and historians, may be replaceable by AI tools.
  - **Productivity boost**: Generative AI could boost productivity adding an estimated $2.6–$4.4 trillion to the economy each year. (Mckinsey Report)
  - **Sectoral shifts**: ILO estimates 54 million green jobs will be created between 2021 and 2030.
- **Workforce & Skills Impact:** According to WEF, 39% workers core skills will change by 2030 and the future-ready skills such as Analytical thinking, creative thinking, resilience are needed for workers.
- **Social Impact**
  - **Inequality concerns**: Wage and opportunity gaps may widen between high-skilled and low-skilled workers. E.g. Difference between Software developer and data entry operator.
  - **Gender inequality may widen:** ILO study estimated average Gender pay gap of 34% for India in comparison to global average of 20%.

Initiatives taken by Government for Future of Work

- **Skilling, Upskilling and Reskilling**
  - **Pradhan Mantri Kaushal Vikas Yojana (PMKVY),** Scheme for imparting skill development training through Short-Term Training (STT) and Up-skilling and Re-skilling through Recognition of Prior Learning (RPL).
  - **FutureSkills Prime** is a digital skilling initiative by NASSCOM & MEITY, aimed at making India a Digital Talent Nation.
- **For adoption of New & Emerging Technologies**
  - **AI for India 2030 initiative**: By the Ministry of Electronics and Information Technology.
  - **National Mission on Interdisciplinary Cyber Physical System (NM-ICPS)**: By Department of Science & Technology, to enhance start-ups, Human Resource and skill-sets in emerging areas.
- **For Health and Well-being**
  - **National Tele Mental Health Programme** to improve access to mental health counseling and care services.

Conclusion

There is to need to strike a balance between business competitiveness and workforce well-being. Sustained investment in skill development, social safety nets, and ethical corporate practices will be crucial to ensuring that the future of work remains inclusive, resilient, and equitable.

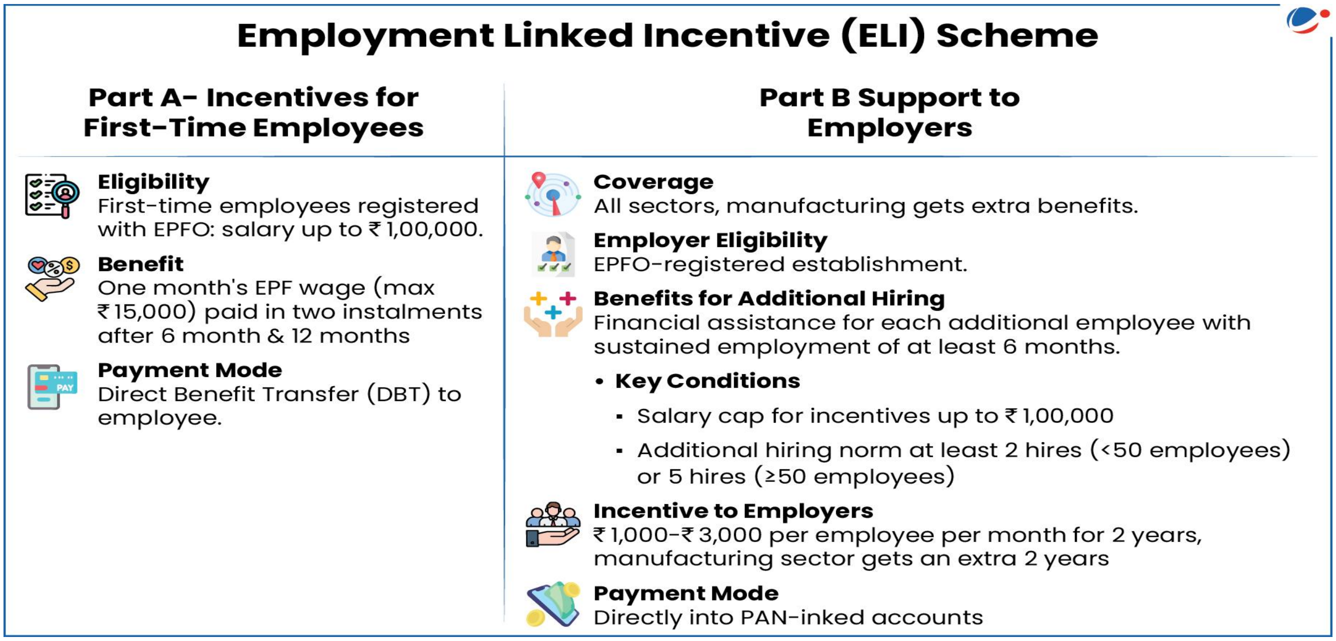
2.8.1. EMPLOYABILITY AND SKILLING IN INDIA

Why in the News?

Recently, the Union Cabinet approved the **Employment Linked Incentive (ELI) Scheme,** which is expected to enhance youth employability, nurture skills and facilitate job retention in the private sector.

About Employment Linked Incentive (ELI) Scheme

- **Background:** Announced in the Union Budget **2024-25 as part of PM's package of five schemes to facilitate employment, and skilling opportunities for youth.**
- **Nodal Ministry**: Ministry of Labour & Employment
- **Purpose:** Promote job creation, enhance employability, and expand social security across sectors, specifically manufacturing
- **Target**: 3.5 crore jobs (including first-time employees)



Employment Linked Incentive (ELI) Scheme

Part A- Incentives for First-Time Employees

Eligibility
First-time employees registered with EPFO: salary up to ₹ 1,00,000.

Benefit
One month's EPF wage (max ₹ 15,000) paid in two instalments after 6 month & 12 months

Payment Mode
Direct Benefit Transfer (DBT) to employee.

Part B Support to Employers

Coverage
All sectors, manufacturing gets extra benefits.

Employer Eligibility
EPFO-registered establishment.

Benefits for Additional Hiring
Financial assistance for each additional employee with sustained employment of at least 6 months.

- **Key Conditions**
  - Salary cap for incentives up to ₹ 1,00,000
  - Additional hiring norm at least 2 hires (<50 employees) or 5 hires (≥50 employees)

Incentive to Employers
₹ 1,000-₹ 3,000 per employee per month for 2 years, manufacturing sector gets an extra 2 years

Payment Mode
Directly into PAN-inked accounts

About Employability and Skilling in India

According to the India Skills Report 2025:

- **Employability:** Over **50% of graduates** (**53.47%** for Male and **46.53%** for Female) are employable in 2024, up from **33% a decade ago** (17% rise).
- **Drivers:** Growth driven by focus on emerging technologies like **AI, cloud computing, and automation**.

Challenges Existing in India's Employability and Skilling Landscape

- **Mismatch Between Education and Industry Needs:** Universities focus more on theory than practical skills. Graduates often lack hands-on experience and technical competencies.
- **Threat from Automation:** 69% of jobs in India face automation risk (World Bank).
- **Limited Emphasis on Soft Skills Development:** The growing importance of soft skills such as communication, teamwork, and critical thinking remains undervalued in many university programs.

Conclusion

Harnessing the demographic dividend needs strong skills. Immediate investment in education, training, healthcare, and social protection is key. Strengthening human capital, fixing labour market gaps, and matching technology with workforce needs will drive inclusive and sustainable growth.

2.9. KEYWORDS

Key Words				
Periodic Labour Force Survey	Labour Force Participation Rate	Worker Population Ratio	Unemployment Rate	Youth Unemployment
Labour Codes	Gig Workers	Female Labour Force Participation Rate	Lakhpati Didi	PM Kaushal Vikas Yojana
Employment Linked Incentive (ELI) Scheme	Informal Sector	Skill Development	Future of Work	Occupational Safety, Health and Working Conditions Code

2.10. PRACTICE QUESTION

Discuss the major challenges in India's labour, employment and skilling ecosystem. Examine the reforms and initiatives undertaken by the government to improve employment generation, labour welfare and workforce participation, and suggest further measures required.

Introduction	Body Part 1	Body Part-2	Conclusion
Introduce India's labour and employment landscape with issues related to unemployment, informalisation and skilling gaps.	Mention key challenges such as low female labour participation, contractualization, skill mismatch, gig worker insecurity and weak labour protections.	Mention major initiatives like Labour Codes, PMKVY, ELI Scheme, Lakhpati Didi and measures for social security, skilling and employment generation.	Conclude with the need for inclusive, future-ready and worker-centric labour reforms for sustainable economic growth.

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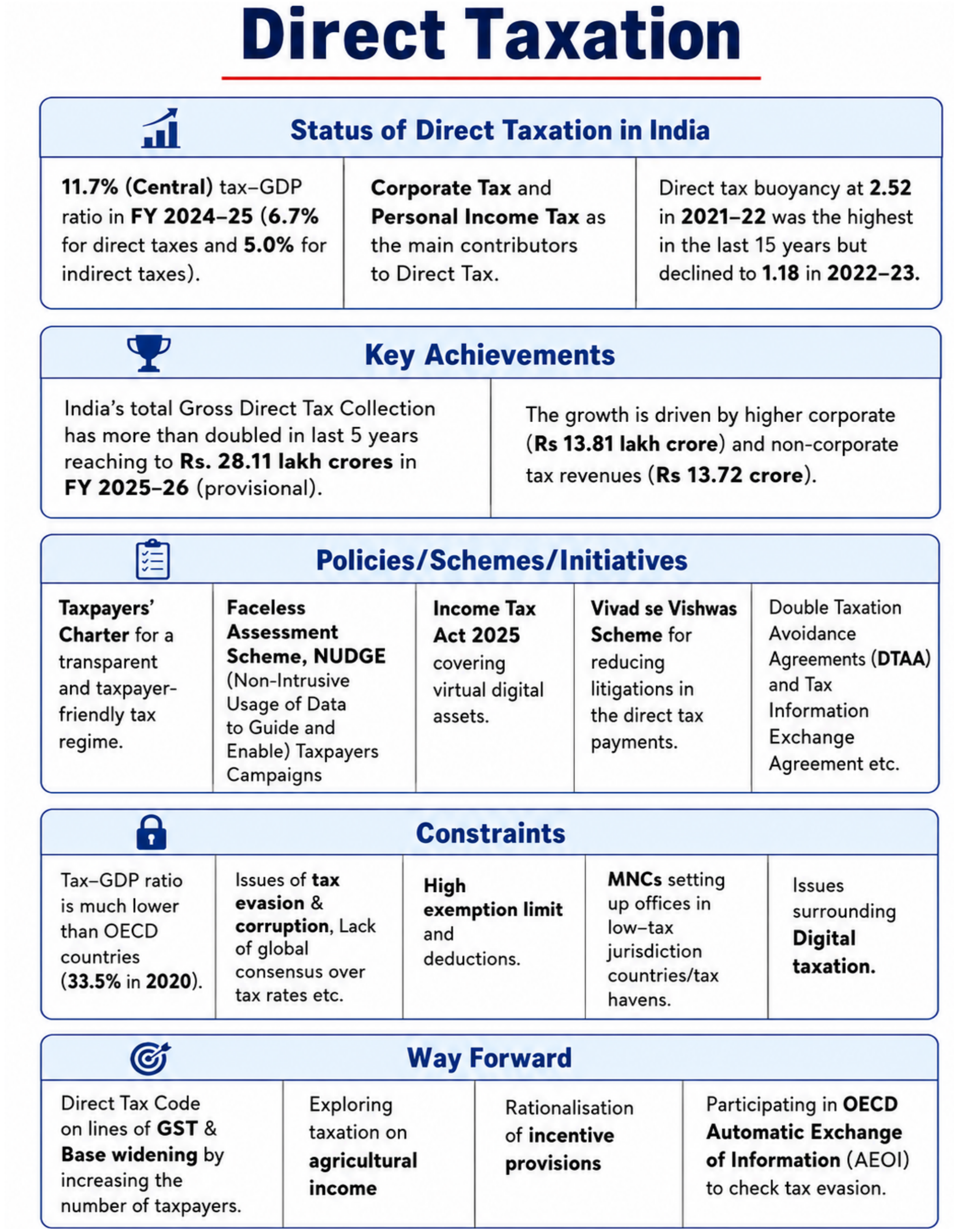
3. FISCAL POLICY

3.1. DIRECT TAXATION AT A GLANCE



Direct Taxation

Status of Direct Taxation in India

- **11.7% (Central)** tax–GDP ratio in **FY 2024–25** (**6.7%** for direct taxes and **5.0%** for indirect taxes).
- **Corporate Tax** and **Personal Income Tax** as the main contributors to Direct Tax.
- Direct tax buoyancy at **2.52** in **2021–22** was the highest in the last 15 years but declined to **1.18** in **2022–23.**

Key Achievements

- India's total Gross Direct Tax Collection has more than doubled in last 5 years reaching to **Rs. 28.11 lakh crores** in **FY 2025–26** (provisional).
- The growth is driven by higher corporate (**Rs 13.81 lakh crore**) and non-corporate tax revenues (**Rs 13.72 crore**).

Policies/Schemes/Initiatives

- **Taxpayers' Charter** for a transparent and taxpayer-friendly tax regime.
- **Faceless Assessment Scheme, NUDGE** (Non-Intrusive Usage of Data to Guide and Enable) Taxpayers Campaigns
- **Income Tax Act 2025** covering virtual digital assets.
- **Vivad se Vishwas Scheme** for reducing litigations in the direct tax payments.
- Double Taxation Avoidance Agreements (**DTAA**) and Tax Information Exchange Agreement etc.

Constraints

- Tax–GDP ratio is much lower than OECD countries (**33.5%** in **2020**).
- Issues of **tax evasion** & **corruption**, Lack of global consensus over tax rates etc.
- **High exemption limit** and deductions.
- **MNCs** setting up offices in low–tax jurisdiction countries/tax havens.
- Issues surrounding **Digital taxation.**

Way Forward

- Direct Tax Code on lines of **GST** & **Base widening** by increasing the number of taxpayers.
- Exploring taxation on **agricultural income**
- Rationalisation of **incentive provisions**
- Participating in **OECD Automatic Exchange of Information** (AEOI) to check tax evasion.

3.2. GOODS AND SERVICES TAX (GST) REFORM

Why in the News?

The **56th meeting of the GST Council** has approved Next-Gen GST reform (GST 2.0) that includes **rate rationalization** with a **simplified two-slab structure**.

Evaluation of GST 1.0

- **About GST:** It is a **single indirect tax** on the supply of goods and services across India.
    - It was Introduced by the **101st Constitutional Amendment Act**, 2016.
- **Main components of GST:** Central GST (CGST), State GST (SGST), Union Territory GST (UTGST) and Integrated GST (IGST).
    - **CGST**, **SGST and UTGST are** on intra-state transactions;**IGST** is on inter-state transactions, collected by the Centre and shared with states
- **Destination-Based Tax:** Revenue goes to the state/UT where the goods or services are finally consumed.

Significance of GST

- Subsumed **17 different taxes and 13 cesses** into one unified tax.
- Eliminated **cascading of taxes (tax on tax).**
- GST taxpayer base has grown from **66.5 lakh in 2017 to 1.51 crore in 2025.**
- FY 2024–25 saw ₹22.08 lakh crore in **gross GST collection** (Doubled in four years)

GST 2.0: Key Reforms and Recommendations

- **The New Rate Structure:**
    - **Two-slab system** of **5% and 18%,** removing the earlier 12% and 28% rate.
    - A **40% Special De-Merit Rate** applies to 'sin' goods and select luxuries, **replacing the compensation cess levy**.
    - The **median tax rate** effectively moves from 12% to **5%**.
- **Relief for citizens and key sectors:** FMCG/Essentials (18% to 5%), exemption to all individual life and health insurance policies, and moving 36 specific lifesaving drugs to nil rate.
- **Dispute Resolution:** The **Goods and Services Tax Appellate Tribunal (GSTAT)** is operational.
- **Registration Ease:** A simplified, **optional GST registration scheme** is recommended for small and low-risk businesses, guaranteeing **automated registration** (operational from November 1, 2025).
- **Export Benefits:** Recommended that the place of supply for **"intermediary services"** will be determined as per the location of the recipient of such services (earlier it was decided by Place of supply).
    - This will help Indian exporters of such services to **claim export benefits.**

Benefits of the Recent Changes

- **Social Protection:** Exemption of GST on insurance and essential medicines strengthens household security and access to healthcare.
- **Lower Prices, Higher Demand:** Cheaper goods and services increase household savings and stimulate consumption.
    - The boost to **nominal GDP growth is estimated at 20-30 basis points (bps)**.
- **Support for MSMEs:** Reduced rates on inputs like cement, auto parts, and handicrafts lower costs and make small businesses more competitive.
- **Ease of Living:** A two-rate structure means fewer disputes, quicker decisions, and simpler compliance.

- **Wider Tax Net:** Simpler rates encourage compliance, expanding the tax base and improving revenues.

Key Challenges in recent changes

- **Revenue foregone:** It could lead to a revenue loss of ~₹48,000 crore (on the FY23-24 consumption base), as per the Finance Ministry.
- **Removal of input tax credit (ITC):** From goods such as healthcare products and insurance, leading to higher costs.
- **Compliance Complexity and Technological Integration:** Despite rationalized tax slabs, businesses continue to face transitional challenges such as adjusting pricing structures and upgrading billing systems.
- **Issue of Inverted Duty Structure (IDS):** In some cases, the GST on raw materials is higher than on the final product. For example, bicycles are taxed at 5%, but inputs like plastic and steel are taxed at 18%.
- **Anti-Profiteering Mechanism**: There is an absence of **National Anti-Profiteering Authority or a similar dedicated body,** as GST 2.0 involves large rate changes, and profiteering is a tax compliance issue.
- Exclusion of **petroleum products from the GST ambit leads to cascading taxes**

Conclusion

The simplified GST structure with lower rates marks a new phase in India's tax system, aiming to boost affordability, business competitiveness, and compliance, while driving inclusive growth and economic transformation. Regular rate reviews, fiscal monitoring, and taxpayer awareness will further build trust, expand the tax base, and enhance revenue sustainability.

3.3. STATE FINANCES

Why in the News?

Comptroller and Auditor General (CAG) of India releases second edition of **Publication on State Finances 2023-24**.

Fiscal position of states

- **Revenue Receipts: States' Own Tax Revenue (SOTR)** is the largest component of revenue receipts, contributing about 47 percent between 2014-15 and 2023-24.
- **Capital Receipts:** In the decade of 2014-15 to 2023-24, public debt receipts, as a percentage of total debt and non-debt capital receipts, have ranged between 94 to 99 percent.
- **States' Expenditure:** During 2014-15 to 2023-24, states' revenue expenditure constituted 80-87 percent of the total expenditure.
    - **Committed expenditure (salaries, pensions, interest payments, etc) and subsidies** consistently absorbed more than half of revenue expenditure, reaching 51.76 percent in FY 2023-24.
- **Revenue and Fiscal Deficits:** During FY 2023-24, a total of 16 States were in Revenue Surplus, while 12 States were in Revenue deficit.
    - In FY 2023–24, 18 States recorded fiscal deficits above the 3% of GSDP limit recommended by the Fifteenth Finance Commission.

Risks to State Finances and Implications

- **Unconditional Cash Transfers (UCTs):** Rapid scale-up and persistence of UCTs raise concerns about **fiscal sustainability and medium-term growth.**
    - According to Economic Survey 2026, between 2022-23 and 2025-26, the number of states running UCT schemes is projected to **increase more than fivefold,** with nearly half of them expected to face revenue deficits.
        - Such transfers range from **0.19% to 1.25% of GSDP** and can account for as much as 8.26% of total State budgetary expenditure.
- **High Debt Levels:** Put pressure on State budgets through rising interest expenses for which governments often cut down other productive expenditures, affecting medium term growth prospects.

- **High Revenue Expenditure:** Combined gross fiscal deficit of States rose from 2.6% of GDP in FY22 to 3.2% in FY25, while the combined revenue deficit increased from 0.4% to 0.7% of GDP, indicating **continued borrowing to finance revenue expenditure**.
- **Growing Contingent Liabilities:** Outstanding guarantees of States increased from 2% of GDP at end-March 2017 to 3.9% at end-March 2024, putting debt-servicing pressure on states.

Way Forward to Strengthen State Finances

- **Conditional Cash Transfers:** As suggested by the economic survey, Cash support can be designed as conditional, review-based, and time-bound, reducing long-term fiscal rigidity.
    - For instance, **Mexico's Progresa/Oportunidades**, families received cash only if children attended school regularly and pregnant women and young children visited health clinics for check-ups and nutrition monitoring.
- **Improving Revenue:** Through digitalisation and administrative streamlining, by broadening the tax base, raising property taxes, adopting new taxes, and reorienting spending toward capacity- and infrastructure-enhancing investments that promise to boost states' GSDP and revenues further.
- **Addressing Contingent Liabilities:** Adopt institutional reforms, such as creating self-standing debt management offices responsible for forecasting contingent liabilities and executing the state government's debt management strategy.
- **Fiscal Council:** Each state could create its own independent fiscal council, whose members would include academics, financial market participants and other experts.

Conclusion

Sound state finances are critical for sustaining economic growth, delivering public services, and maintaining fiscal stability. Strengthening revenue mobilisation, rationalising expenditure, and ensuring prudent debt management will enable states to balance welfare commitments with long-term development priorities and fiscal sustainability.

3.3.1. FISCAL HEALTH INDEX

Why in the News?

NITI Aayog launched the second Annual Edition of **Fiscal Health Index (FHI)**.

About Fiscal Health Index (FHI) 2026

- It provides a **comprehensive and comparable assessment** of the fiscal performance of Indian states.
    - States account for nearly **one-third** of India's general government debt, making their fiscal trajectory central to national fiscal sustainability.
- **5 Key pillars:** Quality of Expenditure, Revenue Mobilization, Fiscal Prudence, Debt Index, and Debt Sustainability.

How FHI Encourages prudent and Sustainable Fiscal Policies?

- **Promotes Competitive Federalism:** Public ranking of states creates healthy competition.
- **Evidence-based fiscal policymaking:** By identifying gaps and **highlighting best practices**, the Index supports policymakers in strengthening fiscal governance.
- **Tailored Policy Frameworks**: By capturing the distinct structural characteristics of different regions (such as the distinct fiscal portfolios of North-Eastern and Himalayan states), the FHI provides context-specific insights.
- **Enabling Targeted Interventions:** It outlines each state's fiscal strengths, weaknesses, and overall profile, offering tailored insights to support improvements in their fiscal position.

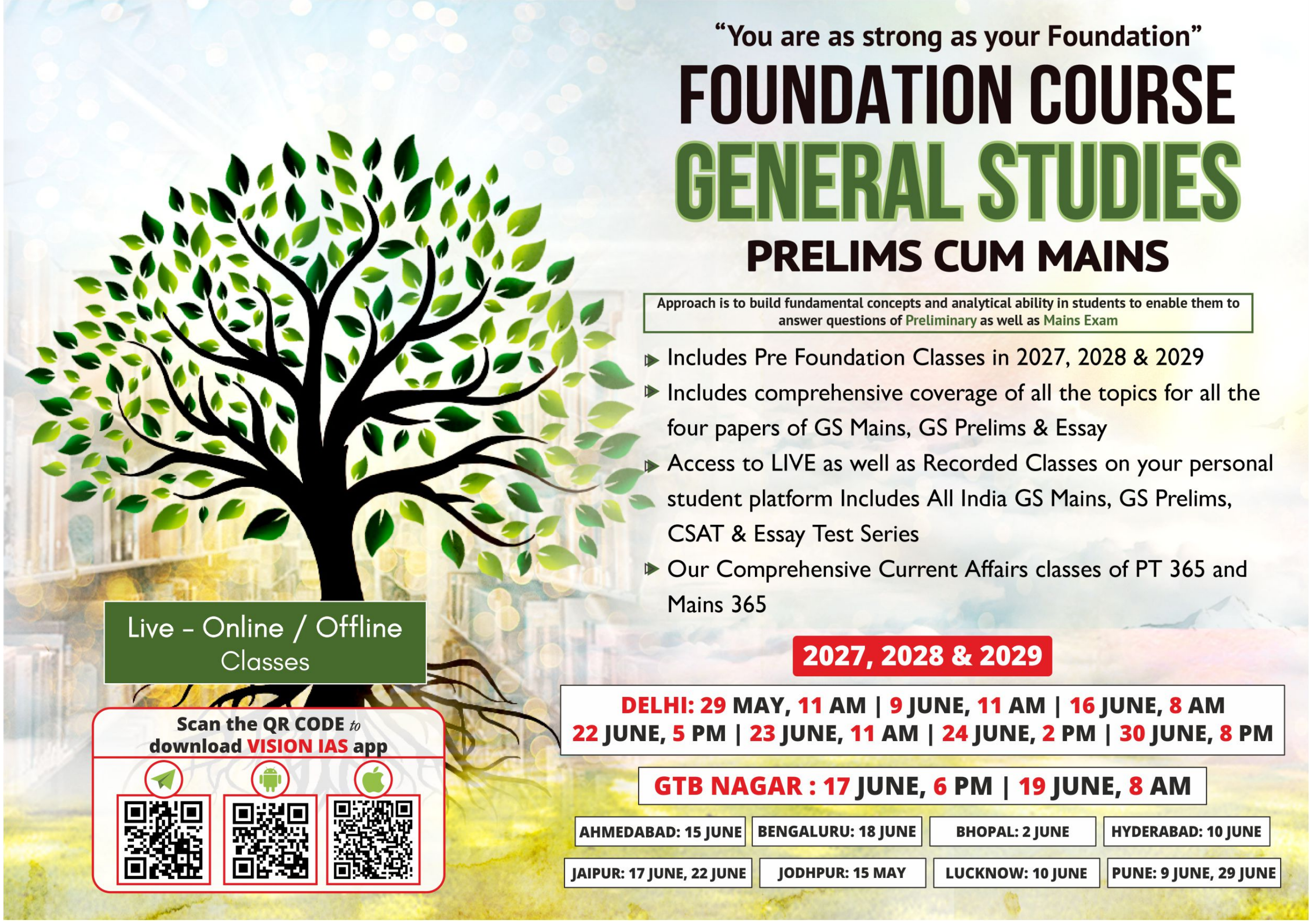
Key recommendations for states

- **Improving revenue mobilisation**: It can be done primarily through broadening GST bases and enhancing own-tax capacity, while curbing committed expenditure to restore fiscal flexibility.

- **Contain deficits and stabilise debt trajectories:** By rationalising subsidies, adopting standard expenditure heads, improving the quality and composition of capital spending, and adopting medium-term fiscal plans.
- **Targeted consolidation measures for states with persistent stress**: Like tighter control of off-budget borrowings and better cash and debt management.
- **Support Evidence-based decision making**: Through enhanced public financial management systems, greater transparency using CAG-verified data, and peer benchmarking tools like FHI.

Conclusion

Given the scale of state expenditure responsibilities and their role in delivering key public services, systematic assessment of state finances is essential to ensure fiscal discipline, efficient resource allocation, and long-term macroeconomic stability. The report also stresses the need for stronger public financial management systems, greater transparency in fiscal data and closer monitoring of off-budget borrowings.



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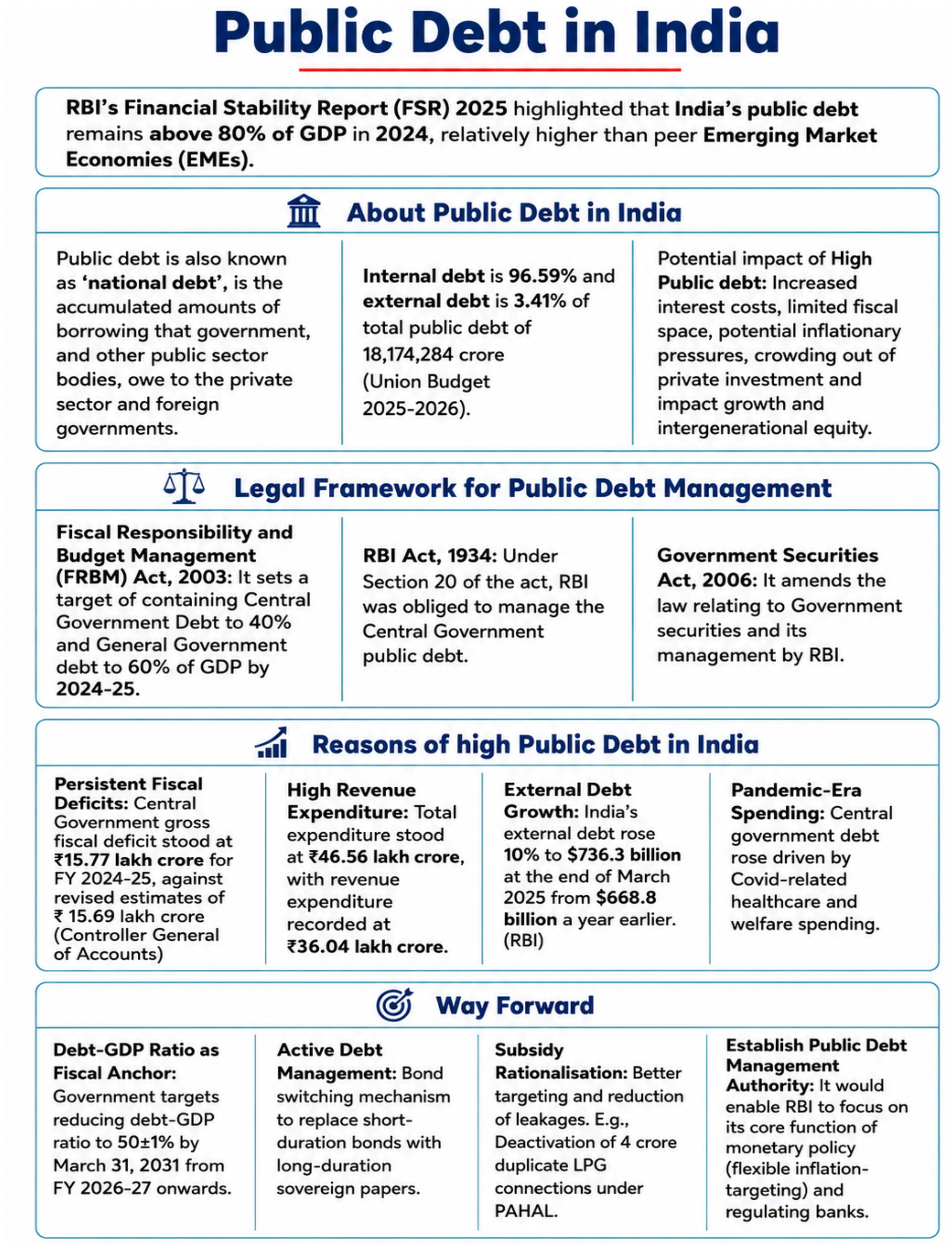
3.4. PUBLIC DEBT IN INDIA AT A GLANCE



Public Debt in India

RBI's Financial Stability Report (FSR) 2025 highlighted that **India's public debt** remains **above 80% of GDP in 2024,** relatively higher than peer **Emerging Market Economies (EMEs).**

About Public Debt in India

Public debt is also known as **'national debt'**, is the accumulated amounts of borrowing that government, and other public sector bodies, owe to the private sector and foreign governments.

Internal debt is **96.59%** and **external debt** is **3.41%** of total public debt of 18,174,284 crore (Union Budget 2025-2026).

Potential impact of **High Public debt:** Increased interest costs, limited fiscal space, potential inflationary pressures, crowding out of private investment and impact growth and intergenerational equity.

Legal Framework for Public Debt Management

Fiscal Responsibility and Budget Management (FRBM) Act, 2003: It sets a target of containing Central Government Debt to 40% and General Government debt to 60% of GDP by **2024-25.**

RBI Act, 1934: Under Section 20 of the act, RBI was obliged to manage the Central Government public debt.

Government Securities Act, 2006: It amends the law relating to Government securities and its management by RBI.

Reasons of high Public Debt in India

Persistent Fiscal Deficits: Central Government gross fiscal deficit stood at **₹15.77 lakh crore** for FY 2024-25, against revised estimates of ₹ 15.69 lakh crore (Controller General of Accounts)

High Revenue Expenditure: Total expenditure stood at **₹46.56 lakh crore,** with revenue expenditure recorded at **₹36.04 lakh crore.**

External Debt Growth: India's external debt rose **10%** to **$736.3 billion** at the end of March 2025 from **$668.8 billion** a year earlier. (RBI)

Pandemic-Era Spending: Central government debt rose driven by Covid-related healthcare and welfare spending.

Way Forward

Debt-GDP Ratio as Fiscal Anchor: Government targets reducing debt-GDP ratio to 50±1% by March 31, 2031 from FY 2026-27 onwards.

Active Debt Management: Bond switching mechanism to replace short-duration bonds with long-duration sovereign papers.

Subsidy Rationalisation: Better targeting and reduction of leakages. E.g., Deactivation of 4 crore duplicate LPG connections under PAHAL.

Establish Public Debt Management Authority: It would enable RBI to focus on its core function of monetary policy (flexible inflation-targeting) and regulating banks.

3.4.1. FISCAL RESPONSIBILITY AND BUDGET MANAGEMENT (FRBM) ACT

Why in the News?

Recently, Comptroller and Auditor General of India (CAG's) report has highlighted several fiscal inconsistencies and transparency issues in the government's compliance with the FRBM Act.

About FRBM Act, 2003

- **Purpose**: The FRBM Act, 2003, was enacted to foster **inter-generational equity in fiscal management and ensure long-term macroeconomic stability**.
  - The Act aims to guide the **central government's fiscal policy towards a sustainable path**, thereby promoting **economic stability and responsible financial governance.**
  - A key mandate of the Act is that the **CAG must conduct an annual compliance review** of its provisions.
- FRBM Act mandates the following statements to be laid before the Parliament along with the Budget:
  - **Macro-economic Framework Statement.**
  - **Medium Term Fiscal Policy Statement.**
  - **Fiscal Policy Strategy Statement.**

Key Targets under FRBM Act

Parameter	**Target**	**Deadline**	**Current Ratio as of 2023-24 (CAG Report)**
Fiscal deficit (original FRBM)	3% of GDP	31st Mar 2021	5.32%
Debt limits	General Govt (Centre + State) ≤ 60% of GDP; Central Govt ≤ 40% of GDP	End of FY 2024–25	Central Govt: 57% General Govt: 81.3%
Revised fiscal consolidation path	< 4.5% of GDP fiscal deficit	FY 2025–26	
Additional guarantees (against Consolidated Fund of India)	≤ 0.5% of GDP in any year	Annual cap	
The targets for Revenue and Effective Revenue Deficit were removed by the 2018 Amendment to the FRBM Act.			

Key Findings of the CAG Report

- **Central Government Debt Trends**:
  - **Debt-to-GDP Ratio**: The central government debt as a ratio of GDP peaked significantly during the pandemic, reaching 61.38% in FY 2020-21.
    - However, it has since shown a **moderating trend, declining to 57% as of March 2024**.
  - **Debt Sustainability**: A positive signal was acknowledged regarding debt sustainability, with the **debt sustainability analysis indicator being positive in 2022-23 and FY24**, indicating stability.
- **Interest Payments to Revenue Receipts**: This ratio, considered an important indicator of the government's fiscal health and fiscal strain, **rose marginally to 35.35% in 2022-23** after declining from a peak of 38.66% in 2020-21.
- **Unrealized Tax Revenues**: The report revealed a significant amount of **tax revenue raised but not realized**, which surged to ₹21.30 trillion by the end of 2022-23.
- **Discrepancies in Deficit Figures**: Variations have been seen in estimates for **fiscal deficit, revenue deficit (currently 2.54%), primary deficit (1.66% currently),** and especially in non-tax revenue estimates.

Conclusion

The need of the hour is to enhance transparency, tax recovery and improving fiscal management practices. By working on this, the government can bolster its fiscal credibility, ensure greater accountability, and reinforce the objectives of the FRBM Act to maintain sound fiscal health and macroeconomic stability.

3.5. ASSET MONETISATION

Why in the News?

Recently, Union Minister for Finance has launched the **second phase of asset monetisation pipeline** of Central ministries and public sector entities - '**National Monetisation Pipeline 2.0 (NMP 2.0)**'.

More on the News

- NMP 1.0, **introduced in 2021**, is meant to serve as an essential roadmap for the **Asset monetisation of various brownfield infrastructure assets**.
    - **Brownfield infrastructure** involve upgrading or redeveloping existing infrastructure, providing faster market entry at a lower initial cost but with legacy limitations.
- The estimated aggregate asset monetisation pipeline target was of INR 6 Lakh Crore over the **four-year period of FY22 to FY25.** NMP 1.0 **achieved 89% of its target.**

About NMP 2.0

- **Objective**: To provide **medium-term roadmap** for public asset owners, along with **visibility on potential assets to private sector.**
- **PPPs are an important mode of monetisation** under NMP 2.0 which helps in reducing public debt through **capital recycling** and **attracting private sector investment**.
- **Key Highlights of NMP 2.0**
    - **Aggregate Monetisation Potential:** It targets to achieve Rs. 16.72 Lakh Crore (including private sector investment of 5.8 lakh crore rupees) from assets belonging to **12 sectors**, during **five years (FY26 to FY30).**
        - **12 Sectors**: Highways (including MMLPs, ropeways) (26%), Power (17%), Railways (16%), Ports (16%), Coal (13%), Petroleum and natural gas, Civil aviation, Warehousing and storage, Urban infrastructure, Mines, Telecom, and Tourism.
    - **Proceeds under NMP 2.0:** Largest portion is accrued to **Consolidated Fund of India**, followed by direct investment (private), PSU or Port Authority allocation and State Consolidated Fund.

About Asset Monetisation

- It is an **alternative mode of financing** which generates revenue from under-utilised public assets via private participation, without increasing fiscal deficit.
    - The idea of Asset monetisation was first suggested by **Vijay Kelkar Committee in 2012**. It is commonly referred to as **asset or capital recycling.**
    - **Additional capital** that is unlocked through asset monetisation is **reinvested in creation of more assets**.
- **Process of Asset Monetisation**:
    - It involves the **license/lease of a government-owned asset to a private sector entity** for a specific period.
    - The **transfer of rights** in exchange for payments is governed by a **concession agreement** that facilitates balanced risk-sharing between the public authority and the private party.
- **Other steps taken for Asset Monetization: National Land Monetization Corporation (NLMC),** a 100% government-owned company, to carry out monetization of non-core assets of CPSEs, Asset Monetization Dashboard, etc.

Asset Monetization model uses two different approaches

- **Direct Contractual models: Brownfield Public-private Partnership (PPP) Concessions**
- **Structure Financing Models**
    - **Infrastructure Investment Trusts (InvITs)**
    - **Real estate Investment Trusts (REITs)**

Asset Monetization in India: Impediments versus Strategic Interventions

Domain	Impediments in Asset Monetization	Strategic Interventions Required
Transparency & Governance	• Allocation of Assets for monetization is vulnerable to favoritism towards selected corporates, political influence and cronyism. • Lack of advance disclosure leads to uncertainty among investors	• **Public Disclosure of Future Monetization Pipeline** to enhance investor visibility, predictability, and trust. • Adopt **transparent bidding frameworks.**
Sectoral Issues	• It remains concentrated in highways and ports while urban infra, railways remain neglected. **E.g. Recently government core group has pulled up railways for poor monetization.**	• **Broaden and Bundle Monetization:** Bundle smaller assets across under-invested sectors to make them commercially viable and attractive.
Valuation Discovery & Competitive Bidding	• **Risk of undervaluation** of assets due to **poor bid design.** • Limited participation of bidders due to **capital intensive nature may lead to private monopolies.**	• **Adopt De-risked Models** (e.g TOT adoption by NHAI) and **foster competition through innovative models (E.g. InvITs).**
State-Level Readiness	• **Negligible private participation in state infra sectors** and **lack of financial incentives** to monetize assets.	• **Unlock potential in state assets** such as state highways through toll roads, terminals etc. • Use of **interest free loans to states for 50 years under the Capital Expenditure Scheme** is a right step.
Monitoring & Performance Tracking	• Weak post-monetization oversight leads to inefficiencies.	• Define clear **Key Performance Indicators (KPIs)** for revenue, efficiency, compliance.

Conclusion

By deepening Centre–State collaboration, strengthening institutional capacity, and ensuring that monetisation proceeds are efficiently recycled into new infrastructure creation, India can transform idle public assets into engines of growth. In this sense, NMP 2.0 has the potential to move beyond a fiscal tool and **emerge as a structural reform** that supports long-term infrastructure expansion and the broader vision of a resilient and competitive economy.

3.6. KEYWORDS

Key Words				
Direct Taxation	Tax-GDP Ratio	Direct Tax Buoyancy	Faceless Assessment Scheme	Double Taxation Avoidance Agreements
Goods and Services Tax	GST Council	GST Appellate Tribunal	Inverted Duty Structure	Fiscal Deficit

Fiscal Health Index	Fiscal Responsibility and Budget Management (FRBM) Act	Asset Monetisation	National Monetisation Pipeline	Public-Private Partnership
Infrastructure Investment Trusts	Debt-GDP Ratio			

3.7. PRACTICE QUESTION

Discuss the major fiscal challenges faced by India and the states in maintaining fiscal sustainability and public financial management. Examine the reforms undertaken in taxation, debt management and asset monetisation, and suggest further measures required for long-term macroeconomic stability.

Introduction	Body Part 1	Body Part-2	Conclusion
Introduce fiscal policy and the importance of fiscal sustainability, taxation and prudent debt management.	Mention key fiscal challenges such as high public debt, fiscal deficits, low tax-GDP ratio, rising revenue expenditure and state-level fiscal stress.	Mention reforms like GST 2.0, FRBM Act, Fiscal Health Index, direct tax reforms and National Monetisation Pipeline along with further measures.	Conclude with the need for transparent, growth-oriented and sustainable fiscal management for long-term economic stability.

फाउंडेशन कोर्स
सामान्य अध्ययन
प्रारंभिक एवं मुख्य परीक्षा 2027
इनोवेटिव क्लासरूम प्रोग्राम

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- मौलिक अवधारणाओं की समझ के विकास एवं विश्लेषणात्मक क्षमता निर्माण पर विशेष ध्यान
- एनीमेशन, पॉवर प्वाइंट, वीडियो जैसी तकनीकी सुविधाओं का प्रयोग
- अंतर - विषयक समझ विकसित करने का प्रयास
- योजनाबद्ध तैयारी हेतु करेंट ओरिएंटेड अप्रोच
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- निबंध लेखन - शैली की कक्षाएं
- करेंट अफेयर्स मैगजीन

नोट: ऑनलाइन छात्र हमारे पाठ्यक्रम की लाइव वीडियो कक्षाएं अपने घर पर ऑनलाइन प्लेटफॉर्म पर देख सकते हैं। छात्र लाइव चैट विकल्प के माध्यम से कक्षा के दौरान अपने संदेह और विषय संबंधी प्रश्न पूछ सकते हैं। वे अपने संदेह और प्रश्न नोट भी कर सकते हैं और दिल्ली केंद्र में हमारे कक्षा सलाहकार को बता सकते हैं और हम फोन/मेल के माध्यम से प्रश्नों का उत्तर देंगे।

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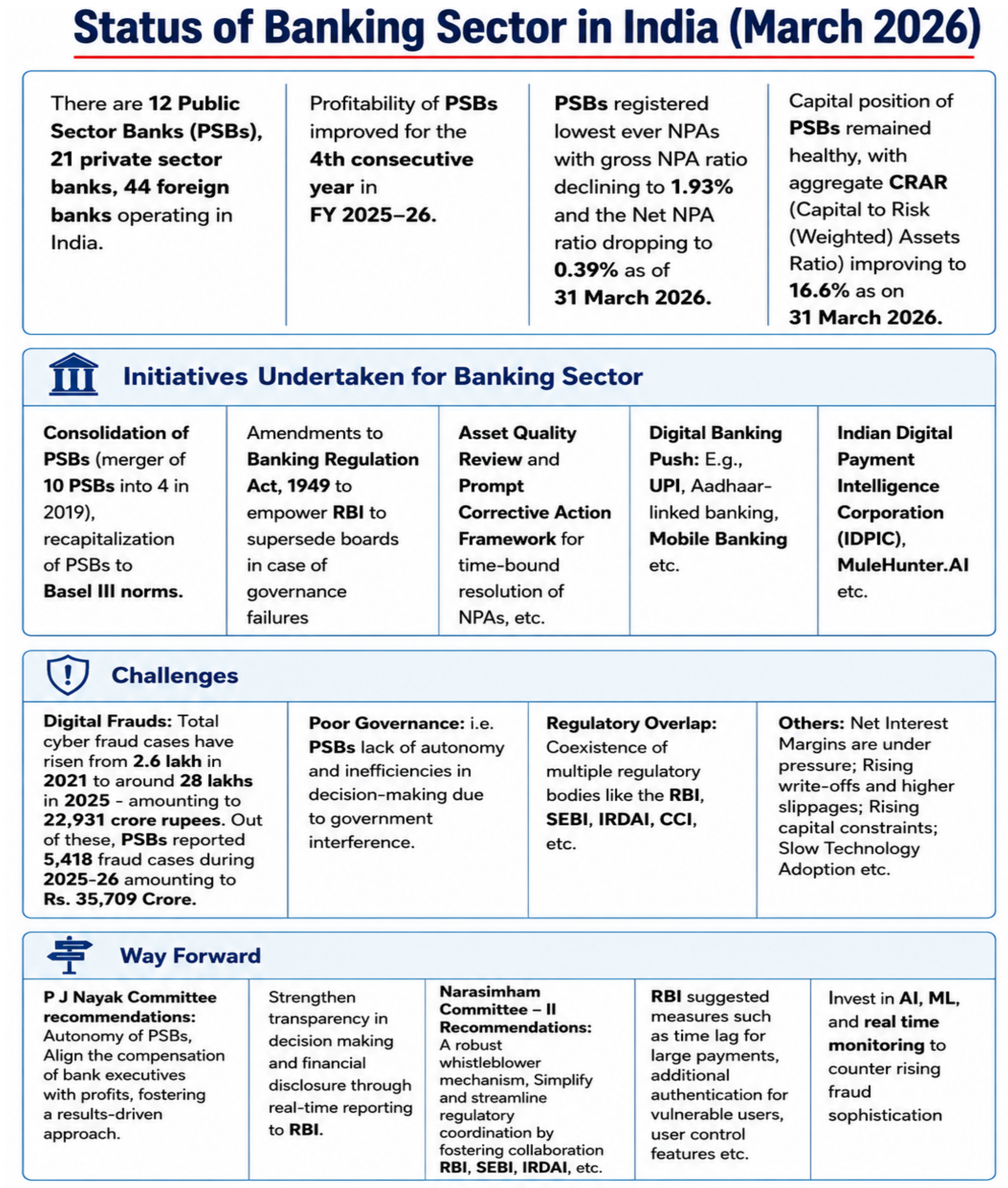
4. BANKING, PAYMENT SYSTEMS AND FINANCIAL MARKETS

4.1. BANKING SECTOR AT A GLANCE



Status of Banking Sector in India (March 2026)

There are **12 Public Sector Banks (PSBs), 21 private sector banks, 44 foreign banks** operating in India.

Profitability of **PSBs** improved for the **4th consecutive year** in **FY 2025–26.**

PSBs registered lowest ever NPAs with gross NPA ratio declining to **1.93%** and the Net NPA ratio dropping to **0.39%** as of **31 March 2026.**

Capital position of **PSBs** remained healthy, with aggregate **CRAR** (Capital to Risk (Weighted) Assets Ratio) improving to **16.6%** as on **31 March 2026.**

Initiatives Undertaken for Banking Sector

Consolidation of PSBs (merger of **10 PSBs** into 4 in 2019), recapitalization of PSBs to **Basel III norms.**

Amendments to **Banking Regulation Act, 1949** to empower **RBI** to supersede boards in case of governance failures

Asset Quality Review and **Prompt Corrective Action Framework** for time-bound resolution of NPAs, etc.

Digital Banking Push: E.g., **UPI**, Aadhaar-linked banking, **Mobile Banking** etc.

Indian Digital Payment Intelligence Corporation (IDPIC), MuleHunter.AI etc.

Challenges

Digital Frauds: Total cyber fraud cases have risen from **2.6 lakh** in **2021** to around **28 lakhs** in **2025** - amounting to **22,931 crore rupees.** Out of these, **PSBs** reported **5,418** fraud cases during **2025-26** amounting to **Rs. 35,709 Crore.**

Poor Governance: i.e. **PSBs** lack of autonomy and inefficiencies in decision-making due to government interference.

Regulatory Overlap: Coexistence of multiple regulatory bodies like the **RBI, SEBI, IRDAI, CCI,** etc.

Others: Net Interest Margins are under pressure; Rising write-offs and higher slippages; Rising capital constraints; Slow Technology Adoption etc.

Way Forward

P J Nayak Committee recommendations: Autonomy of PSBs, Align the compensation of bank executives with profits, fostering a results-driven approach.

Strengthen transparency in decision making and financial disclosure through real-time reporting to **RBI.**

Narasimham Committee – II Recommendations: A robust whistleblower mechanism, Simplify and streamline regulatory coordination by fostering collaboration **RBI, SEBI, IRDAI,** etc.

RBI suggested measures such as time lag for large payments, additional authentication for vulnerable users, user control features etc.

Invest in **AI, ML,** and **real time monitoring** to counter rising fraud sophistication

4.1.1. PAYMENTS VISION 2028

Why in the News?

Reserve Bank of India (RBI) has unveiled its **Payments Vision 2028**, outlining a comprehensive roadmap to strengthen and expand India's rapidly growing digital payments ecosystem.

India's Digital Payments Ecosystem

- **Status**: India processes nearly 50% of global real-time digital payments.
- **Governance Mechanism**
  - **Core Infrastructure**: Backed by Real-Time Gross Settlement (RTGS) in 2004, National Electronic Funds Transfer (NEFT), Electronic Clearing Services (ECS), and Cheque Truncation System (CTS) by RBI.
  - **Institutional Framework**: Creation of the Department of Payment and Settlement Systems (DPSS) within RBI in 2005, and the establishment of the **National Payments Corporation of India (NPCI)**.
  - **Regulatory Backing**: Enactment of the PSS Act, 2007, giving the RBI statutory authority to regulate payment systems.

Factors behind Growth of the Digital Payments and their significance

- **Transformative Platforms**: UPI, Bharat Bill Payment System (BBPS), and AePS enabling financial inclusion and transparency.
- **Market Expansion**: Licensing and expansion of Prepaid Payment Instruments (PPIs), TReDS for MSME payments, and Master Direction on Payment Aggregators.
- **JAM Trinity:** It includes Pradhan Mantri Jan-Dhan Yojana (Jan Dhan), Aadhaar, and mobile connectivity.
- **Rapid smartphone and internet penetration**: E.g., internet penetration is about 70 % which has led to empowerment of small businesses.
- **Growth of e-commerce and online services:** This increased the demand for seamless digital payment methods driving economic growth and innovation.
- **Innovation shaped around people**: Opened space for nonbanks and enabling third-party application providers to compete on user experience and innovation.

Challenges faced by India's Digital Payments Ecosystem

- **Imbalanced Fraud Liability**: Under the current Limiting Liability Framework, the responsibility and liability for unauthorized payment frauds fall exclusively on the issuer.
- **Cybersecurity Risks**: Cyber attackers are increasingly using sophisticated fraud techniques such as phishing, identity theft, and social engineering attacks to target digital payment users.
- **Complexities in Cross-Border Transactions:** International payments are inherently complex because they involve multiple participants, routing hops, varying time zones, different jurisdictions, and overlapping regulations.
- **App Duopoly:** A very high percentage of UPI transactions are processed by just two third-party applications. This duopoly creates a "too big to fail" scenario where platform downtimes could cripple everyday economic activity.
- **Financial Literacy**: A large portion of the elderly and rural populations still lack the digital literacy required to navigate payment apps securely, leaving them susceptible to exploitation.

Conclusion

India's digital payments ecosystem has emerged as a key driver of financial inclusion, transparency, and economic formalisation. Going forward, stronger cybersecurity, innovation, and inclusive digital access will be crucial for sustaining its rapid growth.

4.1.2. REGIONAL RURAL BANKS

Why in the News?

Year 2025 marked golden jubilee of the establishment of Regional Rural Banks (RRBs).

About Regional Rural Banks (RRBs)

- **Established: 1975 under an Ordinance**, which was followed by enactment of the **Regional Rural Banks Act of 1976** (based on the **Narasimham committee**)
- **Objective:** To create an alternative channel to the cooperative credit structure so as to facilitate an expanded bandwidth of institutional credit for agriculture and rural sector.
- **Shareholding Structure:** Share capital of RRBs is contributed by the **Government of India**, the **concerned State Government**, and the **sponsoring bank** in a **50%, 15%, and 35% proportion**, respectively.
- **Target Clients:** They provide loans and advances mostly to **small and marginal farmers, agricultural labourers, rural artisans**, and other priority sectors in rural and semi-urban areas.
- **Regulation and Supervision:** RRBs are **regulated by the Reserve Bank of India (RBI)** under the **Banking Regulation Act, 1949** and **supervised by NABARD.**
- **Priority Sector Lending:** Must allocate **75%** of ANBC (Adjusted Net Bank Credit) or CEOBE (Credit Equivalent of Off-Balance Sheet Exposure) whichever is higher to priority sector.

Status of RRBs

- **Presence and Reach:** There are 28 RRBs with extensive network of 22,158 branches in about 730 districts.
- **Customer Base:** Total business of all 28 RRBs has crossed Rs. 12 lakh crore with banks collectively serving 32.4 crore deposit accounts and 3.2 crore loan accounts.
- **Profit:** The net profit of RRBs has increased to ₹7,720 crore (provisional up to December 2025), compared to a consolidated net profit of ₹6,820 crore in FY 2024–25.
    - Gross Non-Performing Assets (NPAs) have decreased to a 13-year low of 5.4% in FY2024-25.

Significance of RRBs

- **Priority Sector Lending:** RRBs continue to be leaders in PSL, with over 89% of their loans directed towards these sectors.
- **Role in Financial inclusion schemes:** They hold significant shares in major government schemes, including 18.5% of PMJDY accounts, 13.3% of PMSBY enrolments, and 16.9% of PM-Kisan beneficiary accounts.
- **Rural Development:** About 70% of their credit is directed toward the agriculture sector, with 64% going toward weaker sections, such as small and marginal farmers.

Challenges with RRBs

- **Underutilisation of deposits:** Despite mobilising substantial deposits, many RRBs are not fully leveraging these funds for rural lending.
- **Shift in investment strategy:** Factual data indicate that RRBs have increasingly allocated funds to government and approved securities rather than lending, compromising primary mandate of providing credit to rural areas.
- **Operational Inefficiencies:** High employee costs outdated in-house processes, and fragmented systems contribute to operational inefficiencies.
- **Regulatory Constraints:** Compliance requirements could delay innovation and deprive RRBs of the ability to quickly adapt to changing market conditions.

Initiatives for RRBs

- **Amalgamation of RRBs:** Following the recommendations of the **Dr. V.S. Vyas Committee in 2001**, a consolidation process for RRBs began in 2005 to provide better customer service through improved infrastructure and computerization.
    - In the fourth phase of amalgamation, guided by the principle of 'One State-One RRB', the number of RRBs were further reduced from 43 to 28.
- **Viability Plan 2.0:** Aimed at enhancing financial sustainability and long-term competitiveness of RRBs for a period of three years from 2025-26 to 2027-28.
- **Recapitalisation of RRBs:** To improve Capital to Risk weighted Assets Ratio (CRAR) of RRBs, the Government approved recapitalization of Rs.10,890 crore which was infused in RRBs from the FY 2021-22 to FY 2024-25.
- **Digital Banking Infrastructure:** All RRBs have implemented Core Banking Solution (CBS) and most of them provide digital services like Mobile Banking, Internet Banking, UPI and Contactless Debit card to their customers.

Conclusion

Governance of RRBs must be strengthened, further operationalised, and modernised with technology to allow RRBs to serve their purpose of financial inclusion and the sustainable development of rural areas. Their evolution reflects a critical balancing act between preserving their core mission and adapting to a rapidly changing financial landscape.

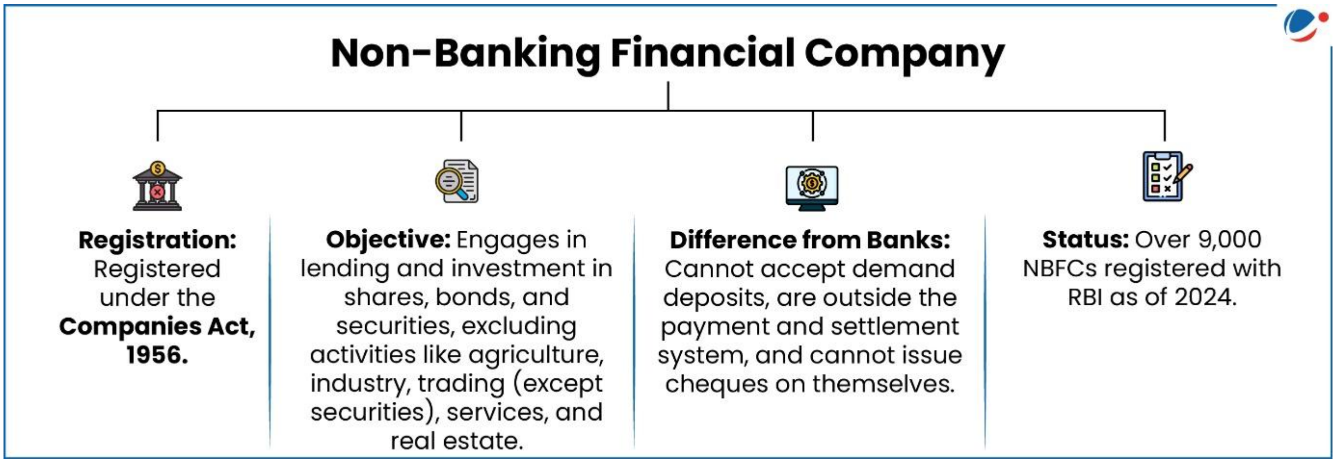
4.1.3. SELF-REGULATORY ORGANISATION FOR NBFCS

Why in the News?

RBI granted Self-Regulatory Organisation status to Finance Industry Development Council (FIDC) to oversee NBFCs.

About Self-Regulatory Organisation

- **Objective**: SRO is expected to adhere to a set of **overarching objectives** for **betterment of the sector** they represent, foster advancement and address **critical industry concerns** within the broader financial system.
- **Legal Backing**: RBI's Omnibus Framework for recognising Self-Regulatory Organisations (SROs) for Regulated Entities (REs), 2024.



Non-Banking Financial Company

Registration: Registered under the **Companies Act, 1956.**

Objective: Engages in lending and investment in shares, bonds, and securities, excluding activities like agriculture, industry, trading (except securities), services, and real estate.

Difference from Banks: Cannot accept demand deposits, are outside the payment and settlement system, and cannot issue cheques on themselves.

Status: Over 9,000 NBFCs registered with RBI as of 2024.

Significance of NBFC

- **Financial Inclusion:** NBFCs reach unbanked and underserved segments, especially in semi-urban and rural areas.
    - They provide credit to **small borrowers, farmers, self-employed individuals**, and micro-entrepreneurs.
- **Complement to Banks:** They often lend in sectors where banks have limited reach, such as consumer finance, vehicle finance, and microfinance.
- **Infrastructure Development:** Specialized NBFCs like Infrastructure Finance Companies (IFCs) and Infrastructure Debt Funds (IDFs) play a critical role in financing large infrastructure projects.
- **Resource Mobilisation:** They mobilise resources by attracting deposits (where permitted) and issuing debentures and commercial paper.
- **Deepening Financial Markets:** NBFCs act as market makers in debt instruments and contribute to the diversification of the financial system.

Conclusion

The recognition of a Self-Regulatory Organisation for NBFCs marks an important step towards strengthening governance, compliance, and industry standards in the sector. By promoting responsible self-regulation while complementing RBI oversight, it can enhance financial stability, consumer trust, and the role of NBFCs in advancing inclusive economic growth.

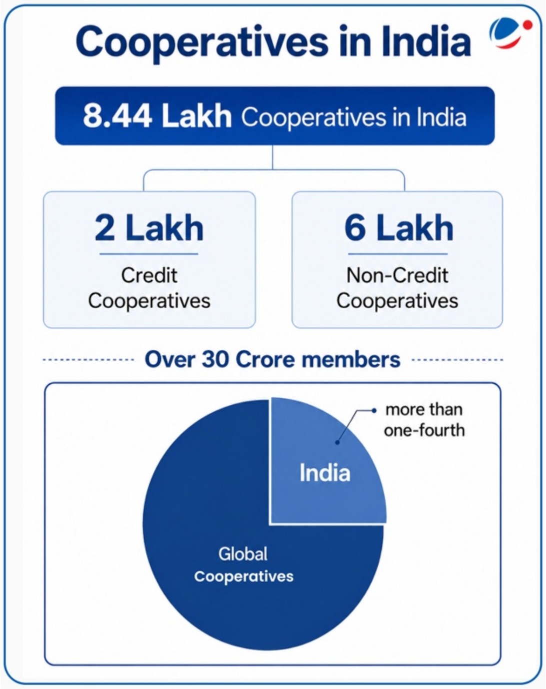
4.2. NATIONAL COOPERATION POLICY (NCP)–2025

Why in the News?

NCP-2025 is the **second policy** for the Cooperative sector after 2002, with the vision of **'Sahkar Se Samriddhi' (Prosperity through Cooperation).**

About NCP-2025

- **Aim:** To establish cooperation as an instrument for the country's development for future generations.
- **Mission:** Promotion of professional, transparent, technology-enabled, accountable, economically self-reliant, and successful cooperative units.
- **Strategic Pillars:**
    - **Legislative and Institutional Reforms:** Encourage States to amend cooperative laws, promote digitalization of registrar offices and revive sick cooperatives.
    - **Financial Empowerment:**
        - Preserve and promote the three-tier Primary Agriculture Credit Societies - District Central Cooperative Bank - State Cooperative Bank credit structure.
        - Promote cooperative banks and umbrella organizations (like National Urban Cooperative Finance & Development Corporation).
    - **Business Ecosystem Development:** Encouraging States/UTs to develop at least one model cooperative village per district and develop rural economic clusters (e.g., honey, spices, tea).



    - > A **Model Cooperative Village** is a self-reliant rural unit developed through a cooperative-led, household-focused approach to enhance livelihoods and productivity.
  - **Future-Readiness & Technology:** Develop a national 'Cooperative Stack' integrating with Agri-stack, promote ONDC and GeM platform integration, and encourage innovation through cooperative incubators and Centres of Excellence.
  - **Inclusivity Measures:** Model bye-laws for gender representation and transparent governance and comprehensive awareness campaigns.
  - **Sectoral Diversification:** Promote cooperatives in new and emerging sectors such as renewable energy, waste management, health and education, mobile-based aggregator services, organic and natural farming, etc.
  - **Youth-Oriented Capacity Building:** Develop cooperative-focused courses in higher education institutions (HEIs) and build a national digital cooperative employment exchange.

Significance of Cooperative Sector:

- **Rural development:** Cooperatives stimulate employment for marginalized groups, boosting local economies and promoting equitable participation in economic activities.
- **Agri-Food Development:** Serve as engines for transforming agrifood systems, facilitates integration of small-scale farmers into new markets, improves their bargaining power and optimize resource management.
- **Social Welfare:** Cooperatives help counteract power asymmetries, social and gender inequalities, and the social capital gaps faced by their producers.
- **Sustainability:** Cooperatives contribute to the sustainable management of natural resources and revitalize traditional and local practices.
  - These also integrate related activities, including bioeconomy, circular economy, agritourism, crafts, rural tourism, and artisanal fishing.
- **Others:** Operate as Janaushadhi Kendras, Common Service Centres (CSCs), Convergence with PM-KUSUM, Women welfare, Credit and Banking, Housing.

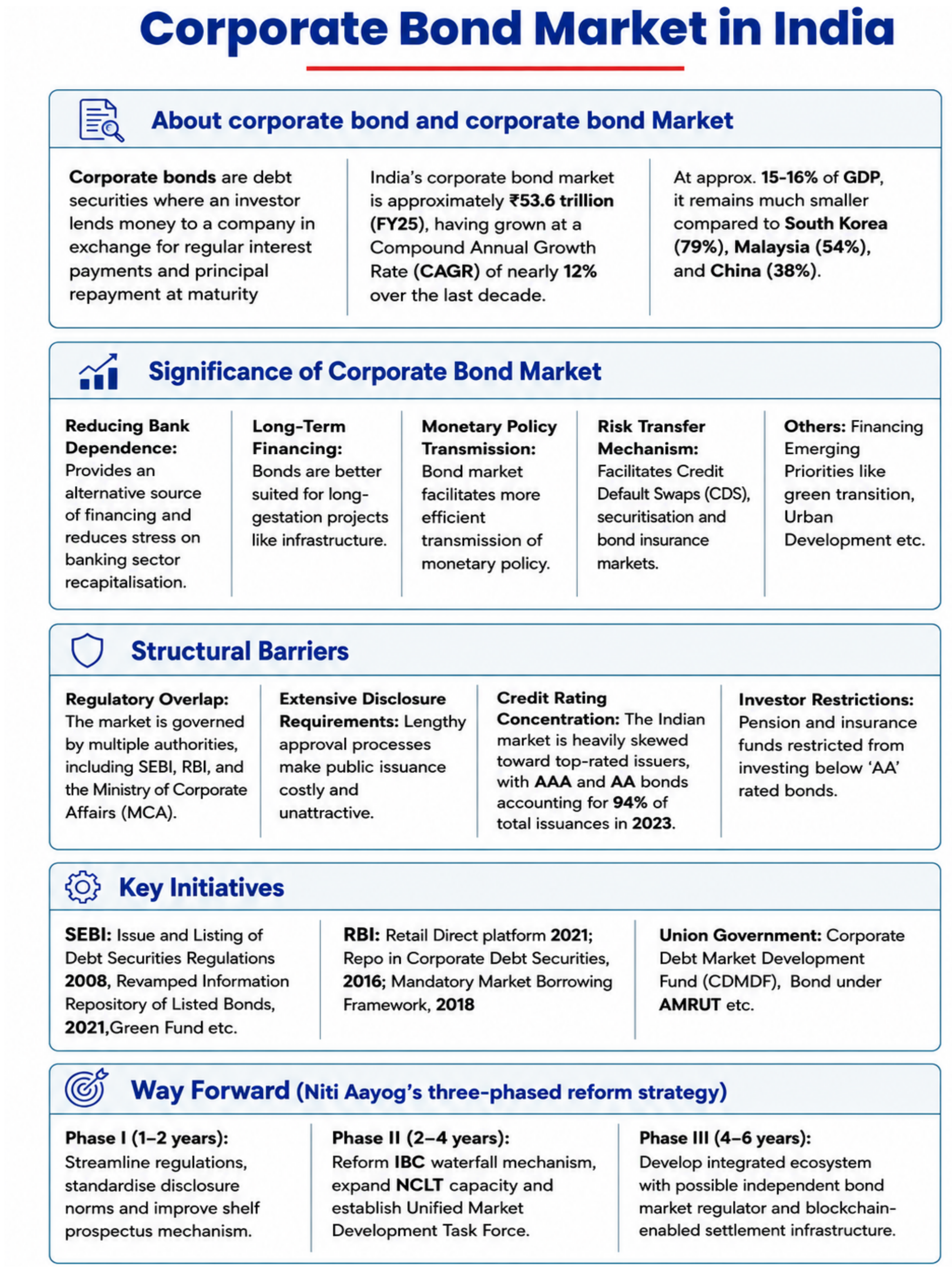
Challenges to India's Cooperative Sector

- **Financial Constraints:** Chronic financial fragility with reliance on smaller member shares, little working capital, rising NPAs and insolvency etc.
- **Defunct Units:** Widespread mismanagement has led to heavy financial losses.
  - Out of total 8.48 lakh cooperative societies, 2.11 lakh (around 24.8%) are in loss, 1.41 lakh (around 16.6%) are non-functional and 47,688 (around 5.5%) are under liquidation.
- **Weak Governance:** Political elites dominate boards and consequent mismanagement exacerbates financial fragility, undermining member trust and participation. E.g. PMC Bank Fraud in Maharashtra.
- **Contractual Inefficiencies:** Poorly enforced contracts, unclear patronage rules, and intermediary dominance often mean that members receive prices below market levels. This is evident in sugar sector.
- **Sector-Specific Issues:** Dairy Sector (Unseasonal Rains, geopolitical disturbances in Asia), Housing Sector (mismanagement of funds), Credit Sector (lack of oversight, mismanagement of credit unions), Women's Welfare (limited access to formal finance, social inhibitions).

Conclusion

The National Cooperative Policy 2025 represents a transformative step in revitalizing India's cooperative movement by aligning it with the principles of transparency, inclusivity, and future-readiness.

4.3. CORPORATE BOND MARKET IN INDIA AT A GLANCE



Corporate Bond Market in India

About corporate bond and corporate bond Market

Corporate bonds are debt securities where an investor lends money to a company in exchange for regular interest payments and principal repayment at maturity

India's corporate bond market is approximately **₹53.6 trillion (FY25)**, having grown at a Compound Annual Growth Rate (**CAGR**) of nearly **12%** over the last decade.

At approx. **15-16% of GDP**, it remains much smaller compared to **South Korea (79%)**, **Malaysia (54%)**, and **China (38%)**.

Significance of Corporate Bond Market

Reducing Bank Dependence: Provides an alternative source of financing and reduces stress on banking sector recapitalisation.

Long-Term Financing: Bonds are better suited for long-gestation projects like infrastructure.

Monetary Policy Transmission: Bond market facilitates more efficient transmission of monetary policy.

Risk Transfer Mechanism: Facilitates Credit Default Swaps (CDS), securitisation and bond insurance markets.

Others: Financing Emerging Priorities like green transition, Urban Development etc.

Structural Barriers

Regulatory Overlap: The market is governed by multiple authorities, including SEBI, RBI, and the Ministry of Corporate Affairs (MCA).

Extensive Disclosure Requirements: Lengthy approval processes make public issuance costly and unattractive.

Credit Rating Concentration: The Indian market is heavily skewed toward top-rated issuers, with **AAA** and **AA** bonds accounting for **94%** of total issuances in **2023**.

Investor Restrictions: Pension and insurance funds restricted from investing below 'AA' rated bonds.

Key Initiatives

SEBI: Issue and Listing of Debt Securities Regulations **2008**, Revamped Information Repository of Listed Bonds, **2021**,Green Fund etc.

RBI: Retail Direct platform **2021**; Repo in Corporate Debt Securities, **2016**; Mandatory Market Borrowing Framework, **2018**

Union Government: Corporate Debt Market Development Fund (CDMDF), Bond under **AMRUT** etc.

Way Forward (Niti Aayog's three-phased reform strategy)

Phase I (1–2 years): Streamline regulations, standardise disclosure norms and improve shelf prospectus mechanism.

Phase II (2–4 years): Reform **IBC** waterfall mechanism, expand **NCLT** capacity and establish Unified Market Development Task Force.

Phase III (4–6 years): Develop integrated ecosystem with possible independent bond market regulator and blockchain-enabled settlement infrastructure.

4.4. KEYWORDS

Key Words				
Public Sector Banks (PSBs)	Non-Performing Assets (NPAs)	Capital to Risk Weighted Assets Ratio (CRAR)	Unified Payments Interface (UPI)	National Payments Corporation of India (NPCI)
Regional Rural Banks (RRBs)	Priority Sector Lending (PSL)	Self-Regulatory Organisation (SRO)	Non-Banking Financial Companies (NBFCs)	National Cooperation Policy (NCP) 2025
Cooperative Sector	Corporate Bond Market	Credit Default Swaps (CDS)	Digital Payments Ecosystem	Asset Quality Review

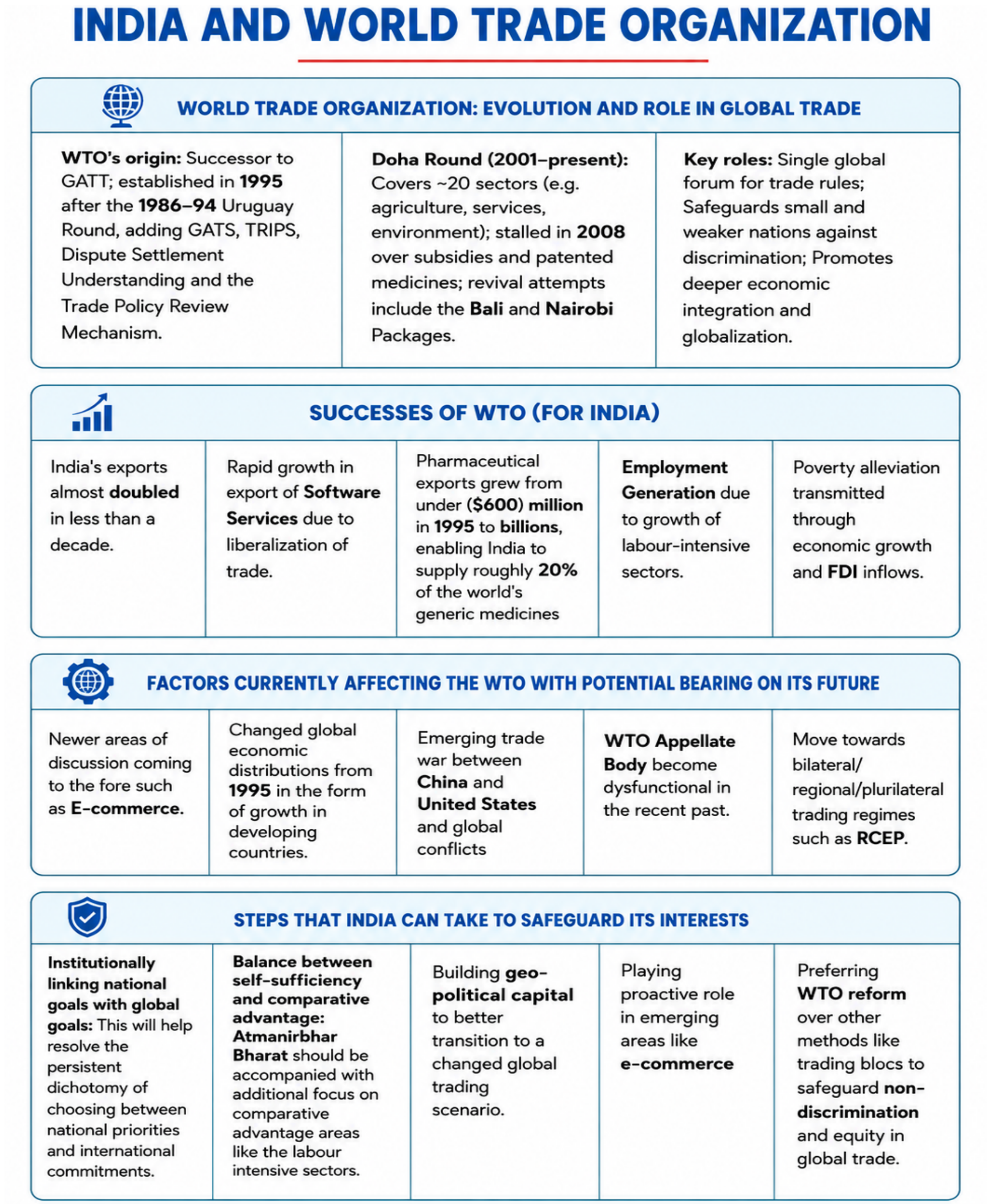
4.5. PRACTICE QUESTION

Discuss the major challenges and reforms in India's banking, digital payments and financial market ecosystem. Examine the role of financial institutions and policy initiatives in promoting financial inclusion, financial stability and economic growth.

Introduction	Body Part 1	Body Part-2	Conclusion
Introduce the importance of banking, digital payments and financial markets in India's economic development and financial inclusion.	Mention key challenges such as NPAs, cyber frauds, governance issues, regulatory overlap, weak bond market depth and operational inefficiencies in financial institutions.	Mention reforms and initiatives like Payments Vision 2028, RRB reforms, SRO for NBFCs, National Cooperation Policy 2025 and corporate bond market reforms.	Conclude with the need for transparent, technology-driven and inclusive financial sector reforms for sustainable economic growth.

5. EXTERNAL SECTOR

5.1. INDIA AND WTO AT A GLANCE



INDIA AND WORLD TRADE ORGANIZATION

WORLD TRADE ORGANIZATION: EVOLUTION AND ROLE IN GLOBAL TRADE

- **WTO's origin:** Successor to GATT; established in **1995** after the **1986–94** Uruguay Round, adding GATS, TRIPS, Dispute Settlement Understanding and the Trade Policy Review Mechanism.
- **Doha Round (2001–present):** Covers ~20 sectors (e.g. agriculture, services, environment); stalled in **2008** over subsidies and patented medicines; revival attempts include the **Bali** and **Nairobi** Packages.
- **Key roles:** Single global forum for trade rules; Safeguards small and weaker nations against discrimination; Promotes deeper economic integration and globalization.

SUCCESSES OF WTO (FOR INDIA)

- India's exports almost **doubled** in less than a decade.
- Rapid growth in export of **Software Services** due to liberalization of trade.
- Pharmaceutical exports grew from under **($600) million** in **1995** to **billions**, enabling India to supply roughly **20%** of the world's generic medicines
- **Employment Generation** due to growth of labour-intensive sectors.
- Poverty alleviation transmitted through economic growth and **FDI** inflows.

FACTORS CURRENTLY AFFECTING THE WTO WITH POTENTIAL BEARING ON ITS FUTURE

- Newer areas of discussion coming to the fore such as **E-commerce.**
- Changed global economic distributions from **1995** in the form of growth in developing countries.
- Emerging trade war between **China** and **United States** and global conflicts
- **WTO Appellate Body** become dysfunctional in the recent past.
- Move towards bilateral/ regional/plurilateral trading regimes such as **RCEP.**

STEPS THAT INDIA CAN TAKE TO SAFEGUARD ITS INTERESTS

- **Institutionally linking national goals with global goals:** This will help resolve the persistent dichotomy of choosing between national priorities and international commitments.
- **Balance between self-sufficiency and comparative advantage: Atmanirbhar Bharat** should be accompanied with additional focus on comparative advantage areas like the labour intensive sectors.
- Building **geo-political capital** to better transition to a changed global trading scenario.
- Playing proactive role in emerging areas like **e-commerce**
- Preferring **WTO reform** over other methods like trading blocs to safeguard **non-discrimination** and equity in global trade.

5.1.1. WTO AGREEMENT ON FISHERIES SUBSIDIES

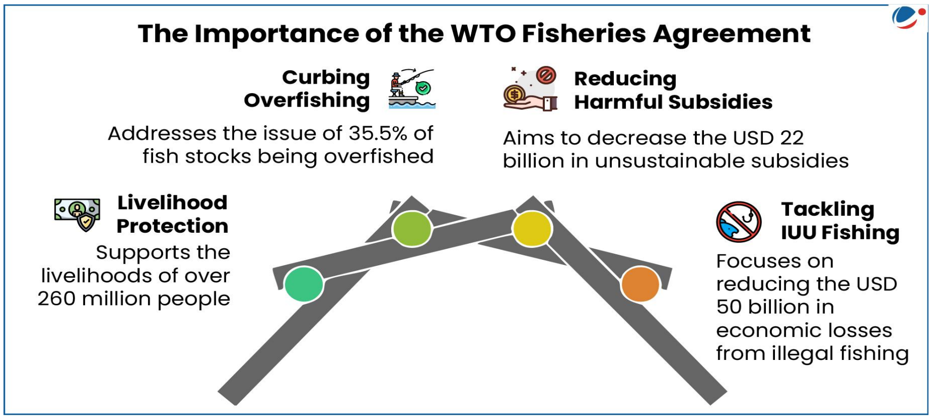
Why in the News?

The WTO Agreement on Fisheries Subsidies has officially entered into force after two-thirds of WTO members submitted their instruments of acceptance.

About WTO Agreement on Fisheries Subsidies

- **Overview:** It is the first WTO agreement to explicitly focus on the environment and the first broad, **binding**, multilateral agreement on **ocean sustainability**.
- **Adoption:** It was adopted at the **12th WTO Ministerial Conference** (MC12), Geneva, 2022 and **entered into force** on **September 15, 2025**.
- **Aligned with SDG 14**: The agreement seeks to **protect marine ecosystems** through the **elimination of harmful fisheries subsidies**.
  - **SDG 14.6** aims to eliminate harmful fisheries subsidies that cause overfishing, overcapacity, or support Illegal, Unreported, and Unregulated (IUU) fishing.
- **India:** India has **not yet ratified the Agreement**.

Key Provisions of the Agreement


The Importance of the WTO Fisheries Agreement
Curbing Overfishing
Addresses the issue of 35.5% of fish stocks being overfished
Reducing Harmful Subsidies
Aims to decrease the USD 22 billion in unsustainable subsidies
Livelihood Protection
Supports the livelihoods of over 260 million people
Tackling IUU Fishing
Focuses on reducing the USD 50 billion in economic losses from illegal fishing

- **Prohibition of Harmful Subsidies:** The Agreement **prohibits subsidies** that contribute to **Illegal, Unreported, and Unregulated (IUU) fishing**, as well as those linked to **overfished stocks** and **unregulated fishing activities in the high seas**.
  - The top 5 subsidizers i.e., **China, EU, U.S., South Korea, and Japan**, account for **58%** (2019) of the global fisheries subsidies.
- **Special and Differential Treatment (S&DT):** Recognizing the developmental needs of poorer nations, **developing and Least Developed Countries (LDCs)** are granted a **two-year transition period** from the date of entry into force of the Agreement.
- **WTO Fish Fund:** The Agreement creates a **voluntary funding** mechanism to **support developing and least-developed countries (LDCs) with technical assistance** and **capacity building** for its implementation.
  - It is fully operational**.**
- **Transparency obligations:** Members are required to **notify the WTO** about their **fisheries subsidies**, **fish stock status**, and **management measures**.
- **High Seas Fishing:** The Agreement also **prohibits providing subsidies for fishing on high seas, which are outside the jurisdiction of coastal countries** and Regional Fisheries Management Organizations/ Arrangements (RFMO/As).

Why India has not ratified the Agreement?

- **Low Subsidies:** India is **one of the lowest fisheries subsidizers** globally, despite a **large coastal population** and **extensive fisheries sector**.
  - India's fishing practices are **small-scale, sustainable**, and support the **livelihoods of millions of traditional and artisanal fishers**.
- **CBDR:** India advocates **'Common but Differentiated Responsibilities (CBDR)'**, ensuring that **countries responsible for overfishing take greater obligations**, while **protecting developing nations from undue burden**.

- **Moratorium:** India had proposed that Distant Water Fishing Nations be subject to a **25-year moratorium** on all subsidies for fishing or fishing-related activities beyond their Exclusive Economic Zones (EEZs).
- **Other issues:** Flawed Over Capacity and Over Fishing (OCOF) approaches, grossly overlooking the intensity of subsidies, and other factors such as the size of the EEZ, long coastal line, population of small fishers and the per capita subsidies to fisher men.

Implementation Issues

- **Capacity Constraints:** Many **developing countries lack the technical and institutional capacity** to monitor fishing activities and ensure compliance with the Agreement.
- **Data Gaps: Incomplete or unreliable data** on fish stocks and subsidies may hinder accurate reporting and transparency.
- **Enforcement Challenges:** Effective monitoring of **high seas and distant-water fleets** remains difficult due to jurisdictional limitations and lack of surveillance infrastructure.
- **Financial Dependence:** Small-scale fishers in developing countries rely on limited subsidies for **livelihood and food security**, making abrupt withdrawal challenging.
- **Unequal Obligations:** Concerns persist that the Agreement may **disproportionately affect developing nations**, while **major subsidizing nations** continue with capacity-enhancing support under different categories.

Conclusion

The **WTO Agreement on Fisheries Subsidies** aims to protect oceans and fish stocks by **curbing harmful subsidies** and promoting **transparency** in fisheries management. This is expected to lead to the **recovery of fish stocks**, better **monitoring of fishing**, the establishment of **sustainable fishing measures**, and the protection of **food security and income** for people dependent on fisheries globally. It is a common effort to better protect our oceans, our fisheries and our shared future.

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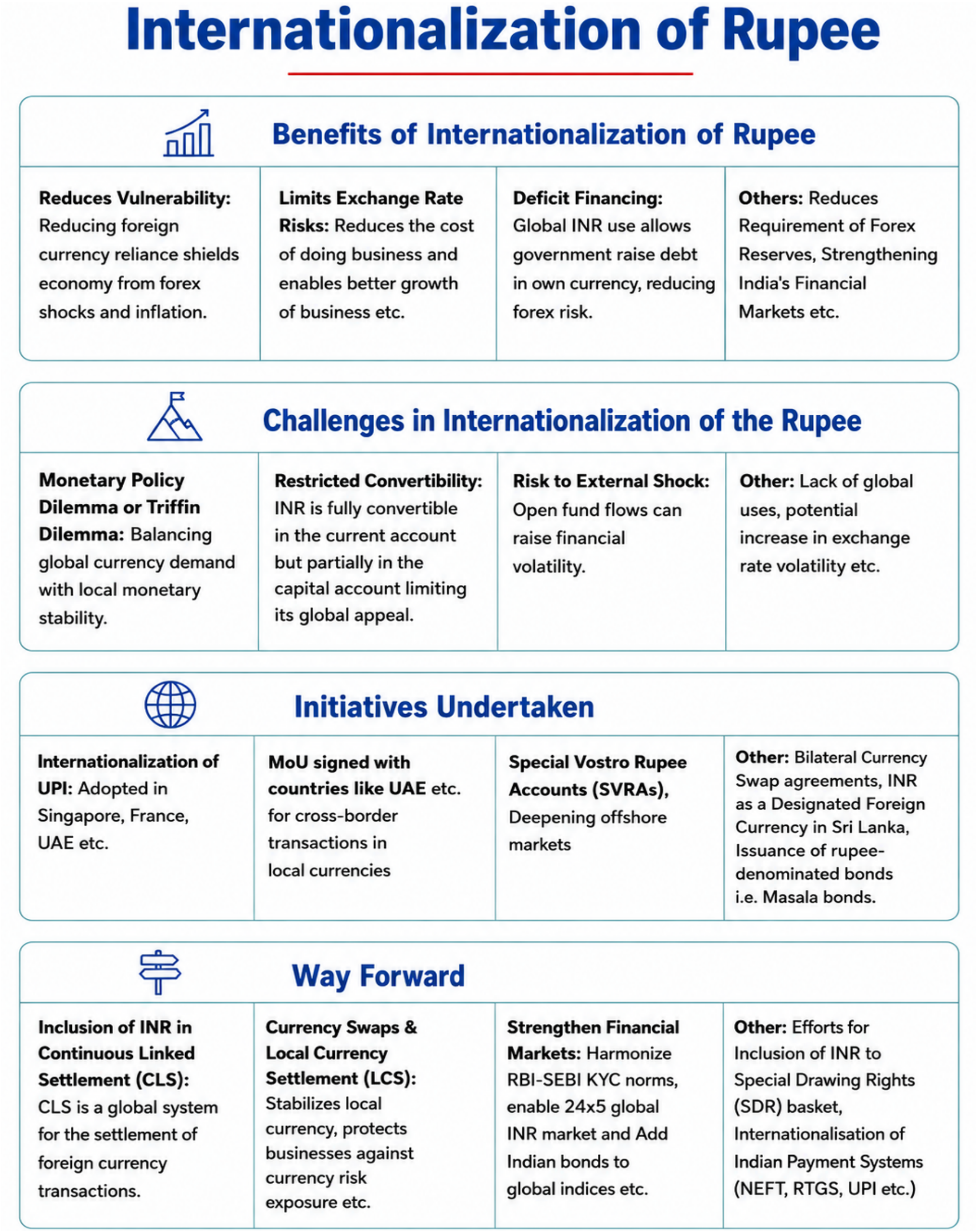
- Highly experienced and qualified team of senior mentors
- Special emphasis to Essay & Ethics

5.2. INTERNATIONALIZATION OF THE RUPEE AT A GLANCE



Internationalization of Rupee

Benefits of Internationalization of Rupee

Reduces Vulnerability: Reducing foreign currency reliance shields economy from forex shocks and inflation.

Limits Exchange Rate Risks: Reduces the cost of doing business and enables better growth of business etc.

Deficit Financing: Global INR use allows government raise debt in own currency, reducing forex risk.

Others: Reduces Requirement of Forex Reserves, Strengthening India's Financial Markets etc.

Challenges in Internationalization of the Rupee

Monetary Policy Dilemma or Triffin Dilemma: Balancing global currency demand with local monetary stability.

Restricted Convertibility: INR is fully convertible in the current account but partially in the capital account limiting its global appeal.

Risk to External Shock: Open fund flows can raise financial volatility.

Other: Lack of global uses, potential increase in exchange rate volatility etc.

Initiatives Undertaken

Internationalization of UPI: Adopted in Singapore, France, UAE etc.

MoU signed with countries like UAE etc. for cross-border transactions in local currencies

Special Vostro Rupee Accounts (SVRAs), Deepening offshore markets

Other: Bilateral Currency Swap agreements, INR as a Designated Foreign Currency in Sri Lanka, Issuance of rupee-denominated bonds i.e. Masala bonds.

Way Forward

Inclusion of INR in Continuous Linked Settlement (CLS): CLS is a global system for the settlement of foreign currency transactions.

Currency Swaps & Local Currency Settlement (LCS): Stabilizes local currency, protects businesses against currency risk exposure etc.

Strengthen Financial Markets: Harmonize RBI-SEBI KYC norms, enable 24x5 global INR market and Add Indian bonds to global indices etc.

Other: Efforts for Inclusion of INR to Special Drawing Rights (SDR) basket, Internationalisation of Indian Payment Systems (NEFT, RTGS, UPI etc.)

5.2.1. DEPRECIATION OF INDIAN RUPEE

Measures to Restore INR Value

Strengthening the Indian Rupee

MONETARY POLICY MEASURES

KEY MEASURES:

- Foreign exchange intervention by RBI
- Increasing Interest rates
- Currency swap agreements

FISCAL POLICY MEASURES

KEY MEASURES:

- Reducing import dependency by Incentivizing domestic production
- Boosting exports through diversification and FTA
- Attracting FDIs with support in infrastructure and ease of doing business

Why in the News?

Indian rupee has been depreciating with the rupee-to-dollar exchange rate reaching 96 in May 2026.

Primary Factors Driving Depreciation

- **Widening Trade Deficit:** Driven by **high demand for gold, electronics, and machinery**, while exports to major markets, including the US, have softened.
    - India has consistently run a merchandise trade deficit, with imports of goods (especially oil) exceeding exports.
- **Capital Outflows:** Foreign Portfolio Investors (FPIs) have pulled significant funds, often **treating India as a liquidity source** to pursue opportunities elsewhere.
    - Foreign investors shifted funds towards safer assets, particularly in advanced economies.
- **Rising Import Costs:** Due to increasing global uncertainties, regional conflicts affecting maritime trade, rising costs of key commodities like gold, crude oil, etc.
- **Speculative Investment:** Continuous dollar demand from importers who are **front-loading their dollar purchases** on expectations of further rupee weakening.
- **Outbound Tourism:** Outbound travel from India remained on its upward trajectory after the pandemic and Rupee demand declines when people travel abroad and exchange rupees for the currency of the destination country.

Key Impacts on Indian Economy

- **Negative Impact:**
    - **Imported Inflation:** As India imports a large proportion of its crude oil (around 85%), edible oils, etc.
        - For instance, to purchase a barrel of oil at $100, Indian companies now must pay ₹9,600, compared to ₹8,500 had the exchange rate remained at ₹85 per dollar.
    - **Increased Subsidy Burden:** Higher import prices for fertilizers will swell the government's subsidy bill.
    - **Higher Cost of Overseas Liabilities:** Companies with dollar-denominated debt face higher repayment and interest servicing costs.
    - **Widening Trade Deficit:** Because import costs surge and outpace export gains, the difference between what India earns from exports and pays for imports grows, eroding the **Current Account Deficit (CAD).**
    - **Decline in GDP:** Based on the exchange rate at the end of March, the country's GDP at current prices is likely to go down by 2.6 per cent to $3,766.8 billion.
- **Positive Impact:**
    - **Export Competitiveness:** Makes Indian exports cheaper and more competitive in the global market.
    - **Remittances:** A weaker rupee could make remittances from overseas more attractive.
    - **Effect on Capital and Investment:** A weakening rupee may also result in domestic investments due to rise in exports.

Conclusion

The depreciation of the Indian rupee is not merely a reflection of external shocks but also of structural vulnerabilities in India's trade and capital flows. A calibrated mix of short-term stabilisation measures by the RBI and long-term structural reforms by the government will be essential to safeguard macroeconomic stability.

5.3. GLOBAL MINIMUM TAX

Why in the News?

OECD/G20 Inclusive Framework on Base Erosion and Profit Shifting (BEPS) have agreed on a **side-by-side arrangement package** for the co-ordinated operation of **global minimum tax** arrangements.

Global Minimum Tax (GMT)

- **GMT** is based on **Global Anti-Base Erosion (GloBE) Model Rules.**
- **It aims to** ensure that **large multinational enterprises pay a minimum level of tax on their income in each jurisdiction where they operate,** thereby reducing the incentive for profit shifting and placing a floor under tax competition, bringing an **end to the race to the bottom** on corporate tax rates.
  - In-scope organisations will need to pay a minimum effective rate of tax of 15% in every country in which they operate.

Global Minimum Tax Package

- **The package includes five key components:**
  - **Simplification measures**: Reduces compliance burdens for multinational enterprises (MNEs) and tax authorities.
  - **Tax incentive alignment**: Introduces a targeted **substance-based tax incentive safe harbour** to align global treatment of tax incentives.
  - **Safe harbours for qualifying MNEs**: Available to MNE Groups with ultimate parent entities in eligible jurisdictions meeting minimum taxation requirements.
  - **Level playing field**: Includes **evidence-based stocktake process** to ensure fair treatment for all Inclusive Framework Members.
  - **Domestic minimum tax protection**: Reinforces qualified domestic minimum top-up tax regimes as the primary mechanism for protecting local tax bases, particularly in developing countries.

Significance of GMT

- **Preventing Profit Shifting:** GMT is designed to reduce the incentive for businesses to shift profits to countries with lower tax rates, and to help ensure that all countries receive a fair share of the taxes paid by multinational companies.
- **Revenue Generation:** The global minimum tax rate of 15% is estimated to generate around USD 150 billion in new tax revenues globally per year.
- **Infrastructure Development:** It will provide governments with additional revenue for public services such as healthcare and education, while also increasing fairness in global taxation.
- **Leveling the Playing Field:** Smaller businesses and domestic companies typically cannot afford the complex legal structures required to domicile operations in tax havens.
- **Addressing Economic Digitalization:** The global agreement tackles tax challenges posed by modern, digital-heavy business models that generate value globally without needing a physical presence.

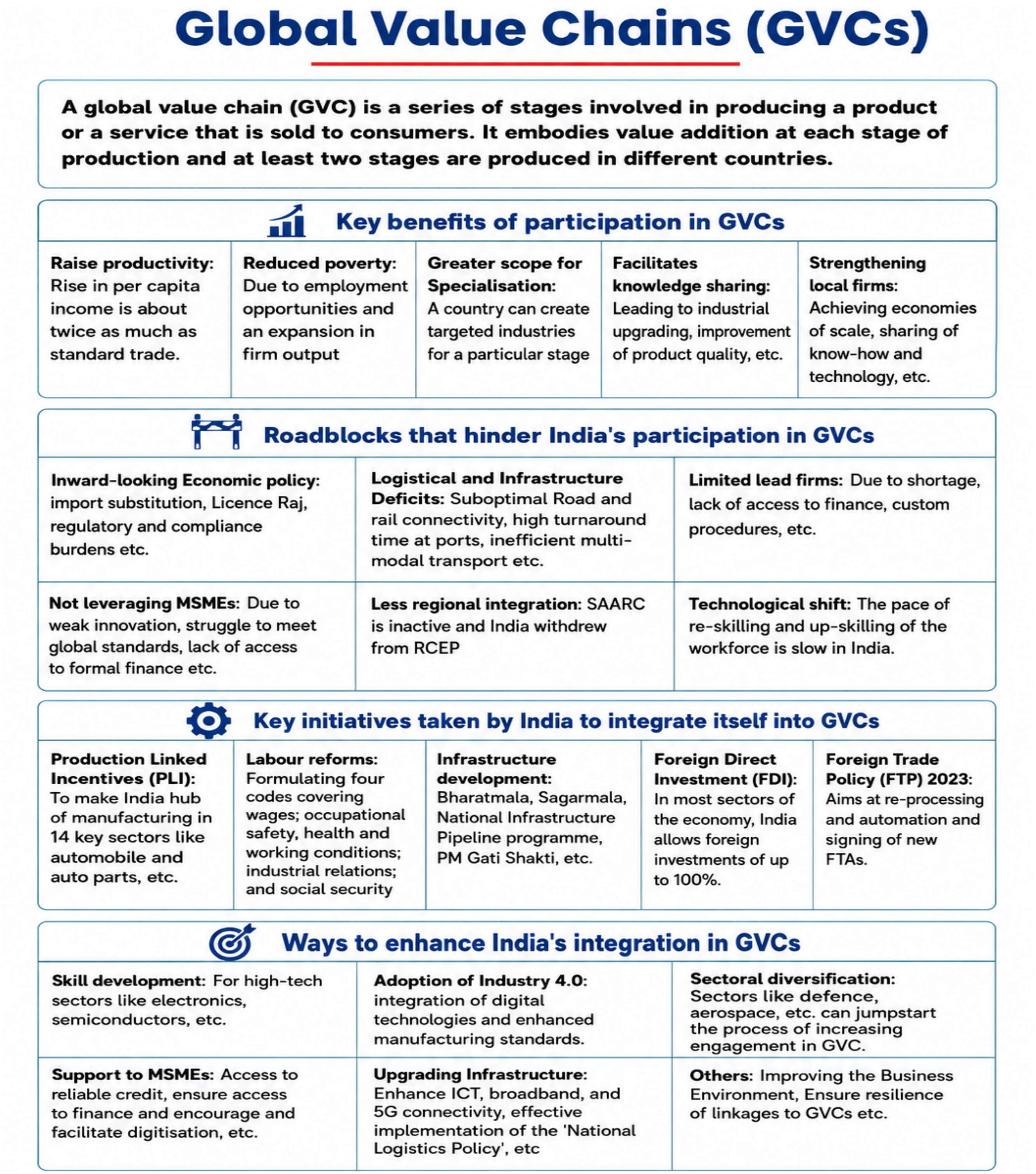
OECD/G20 Inclusive Framework on BEPS

- **Launched: 2016**
- **Led by: OECD and G20**
- **Objective:** To tackle **Base Erosion and Profit Shifting (BEPS)** by multinational enterprises.
- **Membership: 147 countries and jurisdictions**. (India is a member).
- **Key Pillars:**
  - **Pillar One:** Reallocates **taxing rights** to market jurisdictions where profits are generated.
  - **Pillar Two:** Introduces a **global minimum corporate tax (15%)** to curb tax competition.

Conclusion

The Global Minimum Tax marks a historic step in reforming international taxation by curbing base erosion and profit shifting, ensuring fairness, and strengthening the fiscal sovereignty of nations. For India, active participation in the OECD/G20 Inclusive Framework provides both opportunities to safeguard its tax base and challenges in aligning domestic policies with global standards.

5.4. GLOBAL VALUE CHAINS AT A GLANCE



Global Value Chains (GVCs)

A global value chain (GVC) is a series of stages involved in producing a product or a service that is sold to consumers. It embodies value addition at each stage of production and at least two stages are produced in different countries.

Key benefits of participation in GVCs

- **Raise productivity:** Rise in per capita income is about twice as much as standard trade.
- **Reduced poverty:** Due to employment opportunities and an expansion in firm output
- **Greater scope for Specialisation:** A country can create targeted industries for a particular stage
- **Facilitates knowledge sharing:** Leading to industrial upgrading, improvement of product quality, etc.
- **Strengthening local firms:** Achieving economies of scale, sharing of know-how and technology, etc.

Roadblocks that hinder India's participation in GVCs

- **Inward-looking Economic policy:** import substitution, Licence Raj, regulatory and compliance burdens etc.
- **Logistical and Infrastructure Deficits:** Suboptimal Road and rail connectivity, high turnaround time at ports, inefficient multi-modal transport etc.
- **Limited lead firms:** Due to shortage, lack of access to finance, custom procedures, etc.
- **Not leveraging MSMEs:** Due to weak innovation, struggle to meet global standards, lack of access to formal finance etc.
- **Less regional integration:** SAARC is inactive and India withdrew from RCEP
- **Technological shift:** The pace of re-skilling and up-skilling of the workforce is slow in India.

Key initiatives taken by India to integrate itself into GVCs

- **Production Linked Incentives (PLI):** To make India hub of manufacturing in 14 key sectors like automobile and auto parts, etc.
- **Labour reforms:** Formulating four codes covering wages; occupational safety, health and working conditions; industrial relations; and social security
- **Infrastructure development:** Bharatmala, Sagarmala, National Infrastructure Pipeline programme, PM Gati Shakti, etc.
- **Foreign Direct Investment (FDI):** In most sectors of the economy, India allows foreign investments of up to 100%.
- **Foreign Trade Policy (FTP) 2023:** Aims at re-processing and automation and signing of new FTAs.

Ways to enhance India's integration in GVCs

- **Skill development:** For high-tech sectors like electronics, semiconductors, etc.
- **Adoption of Industry 4.0:** integration of digital technologies and enhanced manufacturing standards.
- **Sectoral diversification:** Sectors like defence, aerospace, etc. can jumpstart the process of increasing engagement in GVC.
- **Support to MSMEs:** Access to reliable credit, ensure access to finance and encourage and facilitate digitisation, etc.
- **Upgrading Infrastructure:** Enhance ICT, broadband, and 5G connectivity, effective implementation of the 'National Logistics Policy', etc
- **Others:** Improving the Business Environment, Ensure resilience of linkages to GVCs etc.

5.5. EXPORT PROMOTION MISSION

Why in the News?

The Union Cabinet approved the **Export Promotion Mission (EPM)**.

More on the News

- Also, the Cabinet approved the introduction of the **Credit Guarantee Scheme for Exporters (CGSE)**.

About Export Promotion Mission (EPM)

- **Vision**: Provides a **comprehensive**, **flexible**, and **digitally driven framework** for export promotion.
- **Financial Outlay:** Rs. 25,060 crores.
- **Timeline**: Six years (FY 2025–26 to FY 2030–31).
- **Targeted Sectors**: Priority support will be extended to sectors impacted by **recent global tariff escalations**, such as textiles, leather, gems & jewellery, engineering goods, and marine products.
- **Mission Architecture**: It will operate through two distinct but integrated sub-schemes:
  - **Niryat Protsahan (Financial Support)**:
    - Designed to improve access to affordable trade finance for diversification into new markets.
  - **Niryat Disha (Non-Financial Support)**:
    - Designed to enhance the **market readiness** and **competitiveness** of exporters.
    - Ways under it includes Export quality and compliance support, assistance for international branding, export warehousing and logistics, etc.

India's Export Sector

- **Economic Growth:** It contributes 21% to India's overall GDP (FY 2024-25) and provides direct and indirect employment to over 45 million people in export-oriented industries.
- **Exports Scenario:** USD 825.3 billion was total value of India's merchandise and services exports, registering a 6.1% year-on-year (YoY) growth in FY25.
  - USD 437.7 billion was the value of India's merchandise exports in FY25 and USD 387.5 billion was value of India's services exports in FY25, marking an all-time high.
- **Role of MSMEs:** Approximately 45% of India's total exports are contributed by the MSMEs.
- **Global Share:** India's share in global exports of goods and services is around 2.5%.

Challenges to India's Exports Sector

- **Logistics Challenges:** Inadequate Infrastructure and Transit Delays, Sharp Rise in Freight Costs & Shipping Disruptions (E.g., disturbances in the Red Sea route), etc.
  - **For e.g.,** Telangana's landlocked geography and reliance on **distant ports** like **Krishnapatnam and Visakhapatnam** (600–700 km away) increase logistics costs and transit times.
- **Market Access Challenges:** Limited Visibility and Buyer Connections, Identifying new markets, etc.
- **Regulatory Challenges:** This includes regular documents such as a certificate of origin, quality inspection certificate, and packing list, among others.
- **International constraints**
  - **Competition**: E.g. Indian products are less competitive in comparison with Chinese products due to high production costs, low innovation, etc.
    - **E.g.,** Emerging competition from low-cost manufacturing hubs like **Vietnam** poses a challenge to Punjab's traditional export sectors such as textiles and agro-processing.
  - **Trade barriers and tariffs (increasing global protectionist tendencies)**: E.g., recently, the U.S. imposed a steep 50% tariff on Indian goods.
  - **Geopolitical tensions: E.g.,** Haryana's export resilience is challenged by overdependence on a limited set of markets primarily the **U.S., UAE, and Europe**, exposing it to external shocks from geopolitical tensions.
  - **Other constraints**: Issue of quality standards, Supply chain disruption, etc.

Other Key Government Initiatives to Strengthen India's Export Landscape

- **Foreign Trade & Export Promotion**
  - **New Foreign Trade Policy (FTP) 2023 (**Focuses on export incentives, ease of doing business, and emerging sectors like e-commerce and high-tech products).
  - **Rebate of State and Central Levies and Taxes (RoSCTL) Scheme (**Provide tax and duty reimbursements to exporters, benefiting sectors like pharmaceuticals, chemicals, and steel).
  - **Establishment of Export Facilitation Centres (EFCs):** To provide requisite mentoring and handholding support to exporters especially MSMEs in exporting their products and services to foreign markets.
  - **Districts as Export Hubs (DEH) Initiative:** Launched **in 2019** to identify, brand, and promote products from each district, encouraging their sale in both domestic and international markets.
  - **Export Preparedness Index (EPI):** It is a comprehensive assessment of export readiness across India's States and Union Territories (UTs).
    - **Pillar-Wise weightage:** Export Infrastructure (20%), Business Ecosystem (40%), Policy & Governance (20%), Export Performance (20%).
  - **Credit Guarantee Scheme for Exporters (CGSE): Total Credit Support** up to additional ₹20,000 crore collateral-free with 100% guarantee coverage by **National Credit Guarantee Trustee Company Limited (NCGTC)** for both MSME and non-MSME exporters.

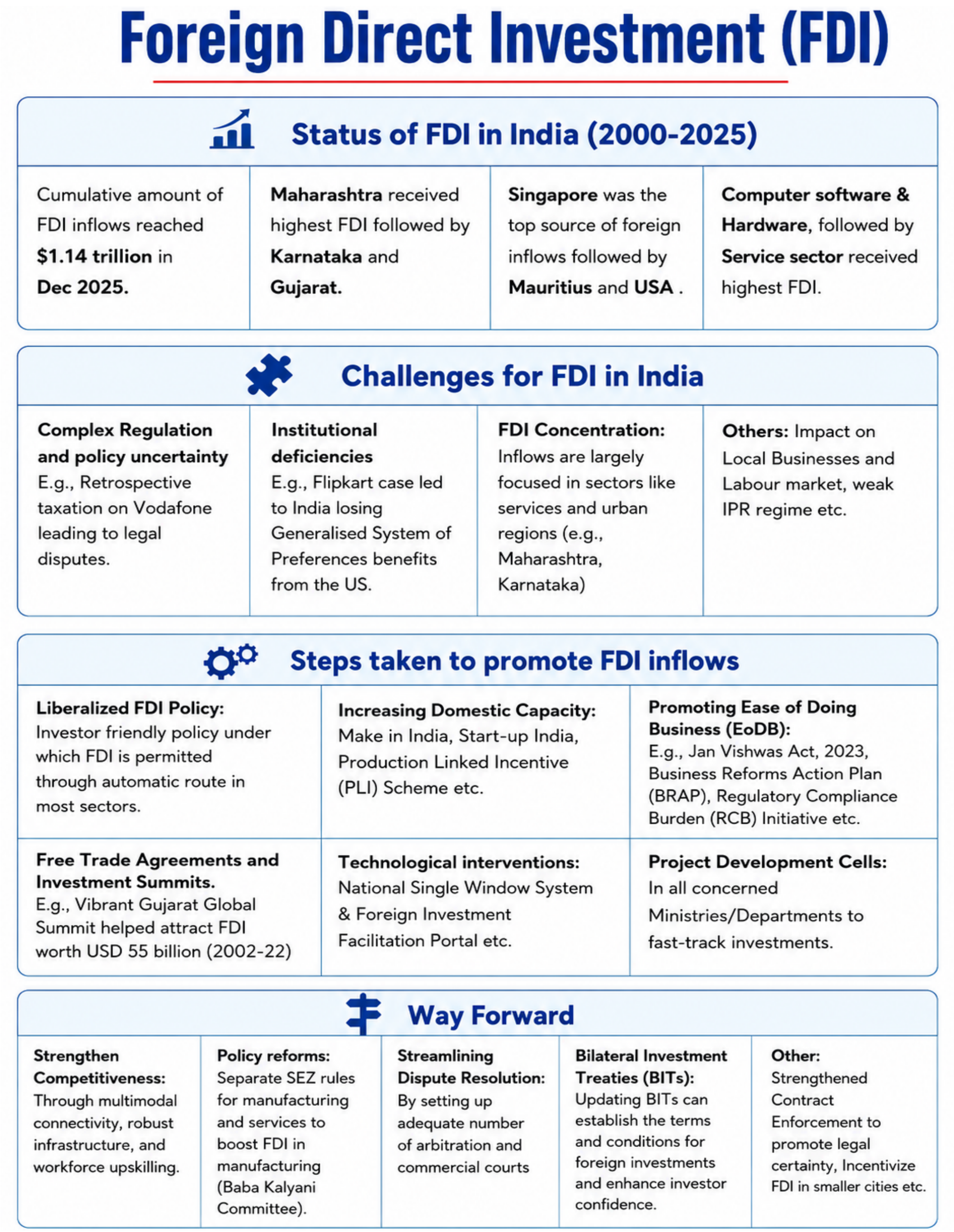
What more can be done to Promote Exports?

- **Finalising Free Trade Agreements (FTA):** Several upcoming free trade agreements can also be negotiated better to improve market access (e.g. Europe, central Asia etc.) and favourable trading terms.
- **Harness demand for high-value technical services:** For instance, specialised technical expertise in the fields of R&D, manufacturing services, supply chain management and maintenance and repair**.**
- **Strengthening MSME exports:** Through increased MSME participation in trade shows and exhibitions. MSMEs should also be trained on important aspects of export procedures, documentation, and standards.
- **Strengthen Innovation & Value Addition**: E.g., Agricultural and Processed Food Products Export Development Authority (APEDA) launched **BHARATI** (Bharat's Hub for Agritech, Resilience, Advancement and Incubation for Export Enablement) to promote innovation and create new export opportunities for young entrepreneurs.
- **Unlock E-Commerce Exports**: E.g., create separate customs supervision codes for e-commerce exports.
- **Create National Trade Network (NTN)**: Proposed unified digital platform to centralize all export-import processes (customs, DGFT, banks, ports) into one system.
  - Implementing NTN would prove beneficial in minimizing transaction costs and addressing the informational asymmetry.

Conclusion

EPM provides a unified and digitally driven framework to overcome fragmented export schemes and strengthen India's global competitiveness. By addressing key challenges like logistics gaps, quality standards, and market access, it aims to drive sustained and diversified export growth.

5.6. FOREIGN DIRECT INVESTMENT (FDI) AT A GLANCE



Foreign Direct Investment (FDI)

Status of FDI in India (2000-2025)

Cumulative amount of FDI inflows reached **$1.14 trillion** in **Dec 2025.**

Maharashtra received highest FDI followed by **Karnataka** and **Gujarat.**

Singapore was the top source of foreign inflows followed by **Mauritius** and **USA** .

Computer software & Hardware, followed by **Service sector** received highest FDI.

Challenges for FDI in India

Complex Regulation and policy uncertainty E.g., Retrospective taxation on Vodafone leading to legal disputes.

Institutional deficiencies E.g., Flipkart case led to India losing Generalised System of Preferences benefits from the US.

FDI Concentration: Inflows are largely focused in sectors like services and urban regions (e.g., Maharashtra, Karnataka)

Others: Impact on Local Businesses and Labour market, weak IPR regime etc.

Steps taken to promote FDI inflows

Liberalized FDI Policy: Investor friendly policy under which FDI is permitted through automatic route in most sectors.

Increasing Domestic Capacity: Make in India, Start-up India, Production Linked Incentive (PLI) Scheme etc.

Promoting Ease of Doing Business (EoDB): E.g., Jan Vishwas Act, 2023, Business Reforms Action Plan (BRAP), Regulatory Compliance Burden (RCB) Initiative etc.

Free Trade Agreements and Investment Summits. E.g., Vibrant Gujarat Global Summit helped attract FDI worth USD 55 billion (2002-22)

Technological interventions: National Single Window System & Foreign Investment Facilitation Portal etc.

Project Development Cells: In all concerned Ministries/Departments to fast-track investments.

Way Forward

Strengthen Competitiveness: Through multimodal connectivity, robust infrastructure, and workforce upskilling.

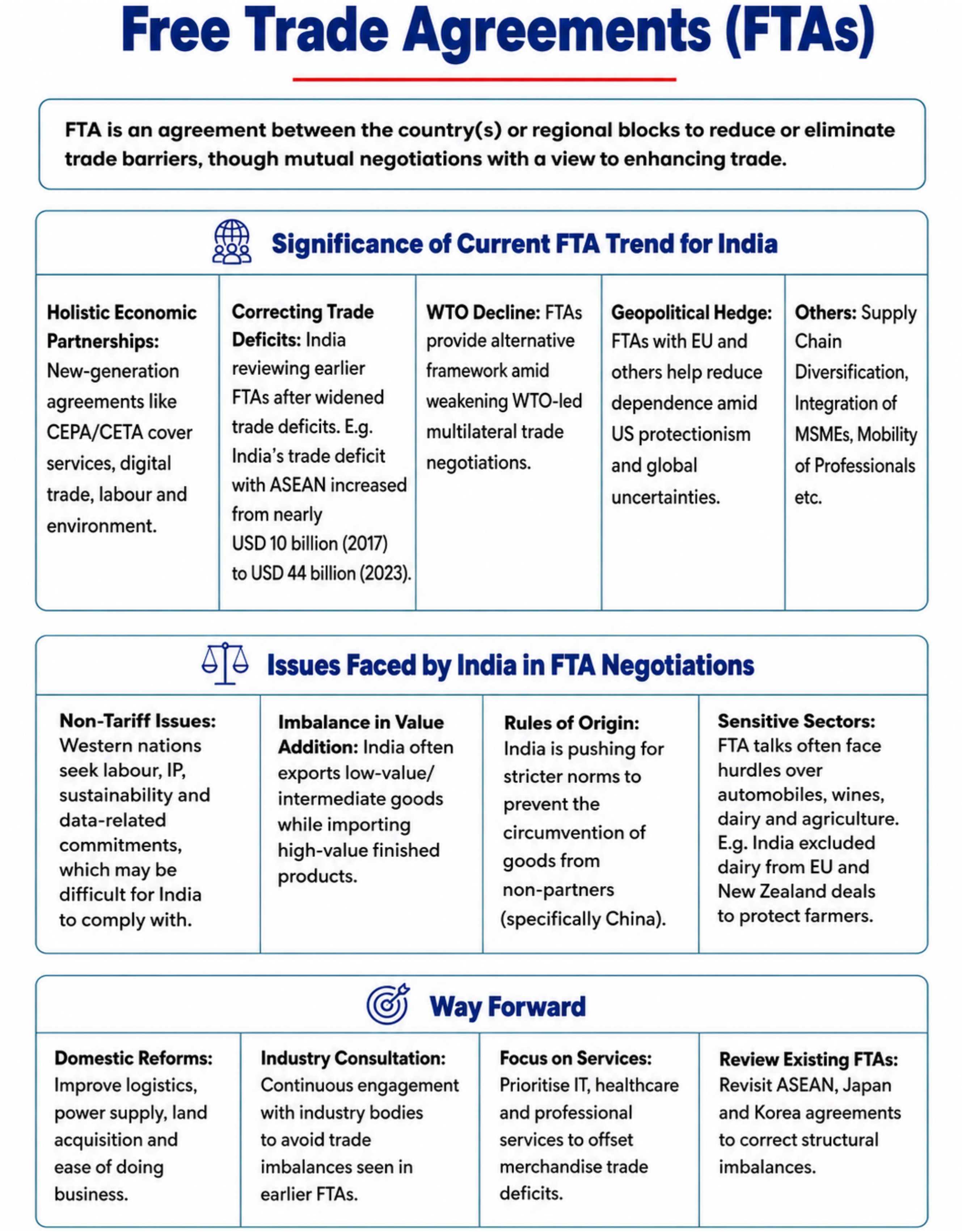
Policy reforms: Separate SEZ rules for manufacturing and services to boost FDI in manufacturing (Baba Kalyani Committee).

Streamlining Dispute Resolution: By setting up adequate number of arbitration and commercial courts

Bilateral Investment Treaties (BITs): Updating BITs can establish the terms and conditions for foreign investments and enhance investor confidence.

Other: Strengthened Contract Enforcement to promote legal certainty, Incentivize FDI in smaller cities etc.

5.7. FREE TRADE AGREEMENTS (FTAS) AT A GLANCE



Free Trade Agreements (FTAs)

FTA is an agreement between the country(s) or regional blocks to reduce or eliminate trade barriers, though mutual negotiations with a view to enhancing trade.

Significance of Current FTA Trend for India

Holistic Economic Partnerships: New-generation agreements like CEPA/CETA cover services, digital trade, labour and environment.

Correcting Trade Deficits: India reviewing earlier FTAs after widened trade deficits. E.g. India's trade deficit with ASEAN increased from nearly USD 10 billion (2017) to USD 44 billion (2023).

WTO Decline: FTAs provide alternative framework amid weakening WTO-led multilateral trade negotiations.

Geopolitical Hedge: FTAs with EU and others help reduce dependence amid US protectionism and global uncertainties.

Others: Supply Chain Diversification, Integration of MSMEs, Mobility of Professionals etc.

Issues Faced by India in FTA Negotiations

Non-Tariff Issues: Western nations seek labour, IP, sustainability and data-related commitments, which may be difficult for India to comply with.

Imbalance in Value Addition: India often exports low-value/ intermediate goods while importing high-value finished products.

Rules of Origin: India is pushing for stricter norms to prevent the circumvention of goods from non-partners (specifically China).

Sensitive Sectors: FTA talks often face hurdles over automobiles, wines, dairy and agriculture. E.g. India excluded dairy from EU and New Zealand deals to protect farmers.

Way Forward

Domestic Reforms: Improve logistics, power supply, land acquisition and ease of doing business.

Industry Consultation: Continuous engagement with industry bodies to avoid trade imbalances seen in earlier FTAs.

Focus on Services: Prioritise IT, healthcare and professional services to offset merchandise trade deficits.

Review Existing FTAs: Revisit ASEAN, Japan and Korea agreements to correct structural imbalances.

5.8. KEYWORDS

Key Words				
World Trade Organization (WTO)	General Agreement on Tariffs and Trade	General Agreement on Trade in Services	Trade-Related Aspects of Intellectual Property Rights	WTO Agreement on Fisheries Subsidies
Sustainable Development Goals	Internationalization of Rupee	Special Vostro Rupee Accounts	Depreciation of Indian Rupee	Global Minimum Tax
Base Erosion and Profit Shifting	Global Value Chains	Production Linked Incentive (PLI) Scheme	Export Promotion Mission (EPM)	Foreign Direct Investment (FDI)
National Single Window System	Free Trade Agreements	Rules of Origin	Current Account Deficit	

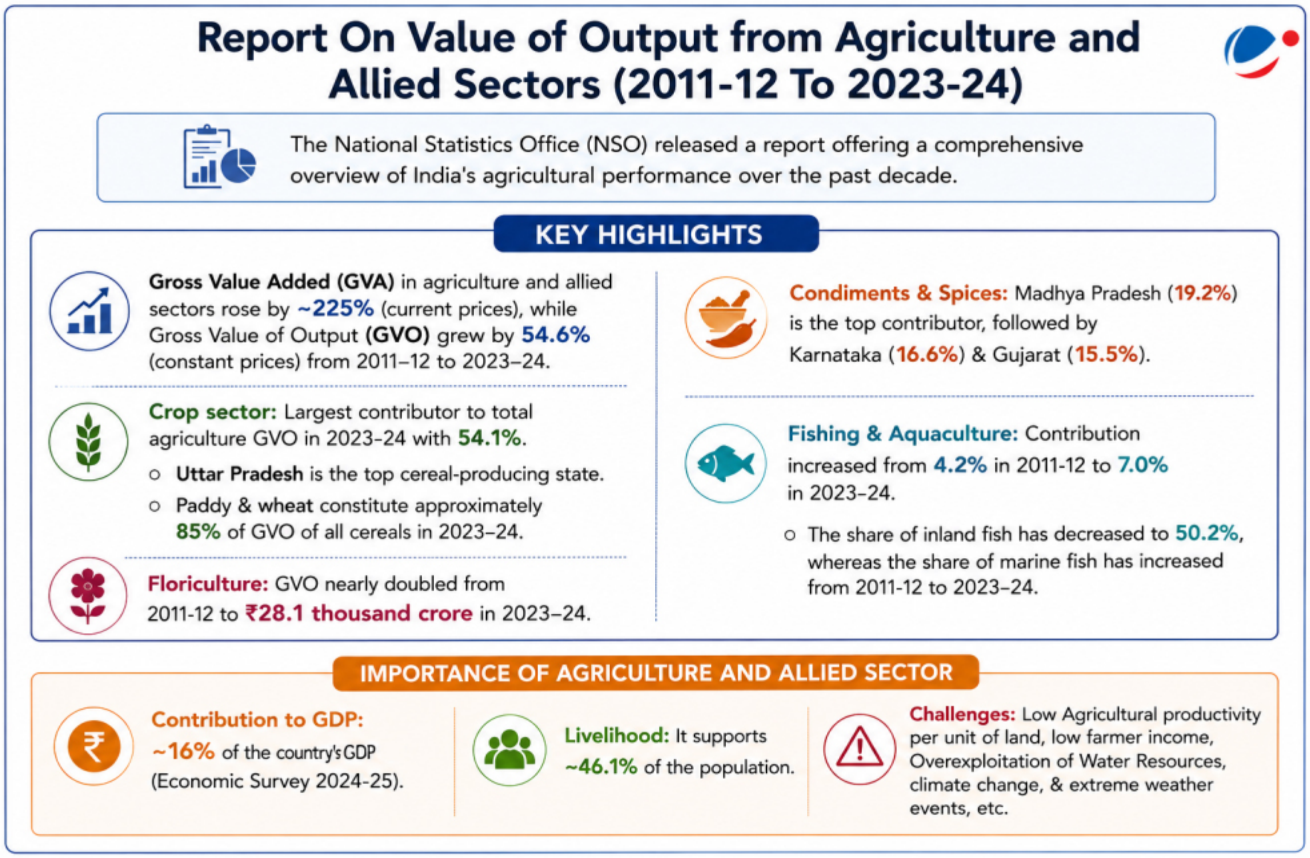
5.9. PRACTICE QUESTION

Discuss the major opportunities and challenges in India's external sector in the context of global trade, exports, foreign investment and currency management. Examine the policy initiatives undertaken to strengthen India's integration with the global economy and suggest further measures required.

Introduction	Body Part 1	Body Part-2	Conclusion
Introduce the importance of the external sector in trade, investment, foreign exchange and economic growth.	Mention key challenges such as trade deficits, rupee depreciation, WTO issues, global protectionism, logistics bottlenecks and weak integration into global value chains.	Mention initiatives like Export Promotion Mission, FDI reforms, FTAs, rupee internationalisation and policies to improve exports and global competitiveness.	Conclude with the need for resilient, competitive and globally integrated external sector policies for sustainable economic growth.

6. AGRICULTURE AND ALLIED ACTIVITIES

6.1. REPORT ON VALUE OF OUTPUT FROM AGRICULTURE AND ALLIED SECTORS (2011-12 TO 2023-24)



Report On Value of Output from Agriculture and Allied Sectors (2011-12 To 2023-24)

The National Statistics Office (NSO) released a report offering a comprehensive overview of India's agricultural performance over the past decade.

KEY HIGHLIGHTS

Gross Value Added (GVA) in agriculture and allied sectors rose by **~225%** (current prices), while Gross Value of Output **(GVO)** grew by **54.6%** (constant prices) from 2011–12 to 2023–24.

Crop sector: Largest contributor to total agriculture GVO in 2023-24 with **54.1%**.

- **Uttar Pradesh** is the top cereal-producing state.
- **Paddy & wheat** constitute approximately **85%** of GVO of all cereals in 2023–24.

Floriculture: GVO nearly doubled from 2011-12 to **₹28.1 thousand crore** in 2023–24.

Condiments & Spices: Madhya Pradesh (**19.2%**) is the top contributor, followed by Karnataka (**16.6%**) & Gujarat (**15.5%**).

Fishing & Aquaculture: Contribution increased from **4.2%** in 2011-12 to **7.0%** in 2023–24.

- The share of inland fish has decreased to **50.2%**, whereas the share of marine fish has increased from 2011-12 to 2023–24.

IMPORTANCE OF AGRICULTURE AND ALLIED SECTOR

Contribution to GDP: **~16%** of the country's GDP (Economic Survey 2024-25).

Livelihood: It supports **~46.1%** of the population.

Challenges: Low Agricultural productivity per unit of land, low farmer income, Overexploitation of Water Resources, climate change, & extreme weather events, etc.

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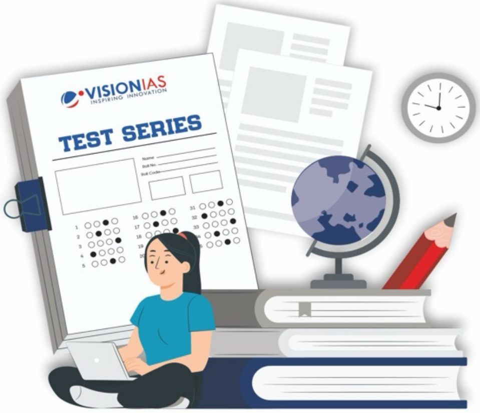
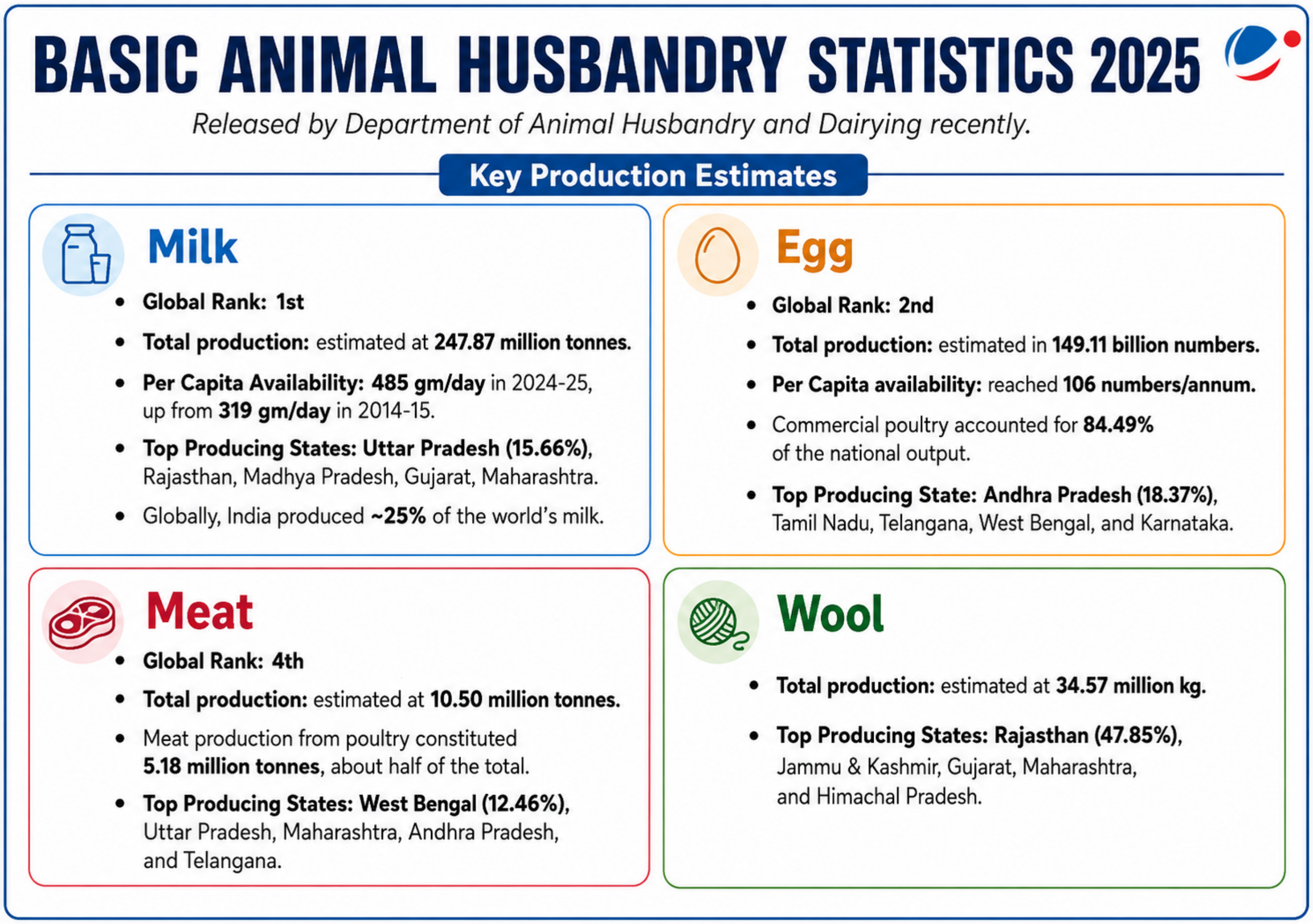


6.1.1. BASIC ANIMAL HUSBANDRY STATISTICS 2025



BASIC ANIMAL HUSBANDRY STATISTICS 2025

Released by Department of Animal Husbandry and Dairying recently.

Key Production Estimates

Milk

- **Global Rank: 1st**
- **Total production:** estimated at **247.87 million tonnes.**
- **Per Capita Availability: 485 gm/day** in 2024-25, up from **319 gm/day** in 2014-15.
- **Top Producing States: Uttar Pradesh (15.66%),** Rajasthan, Madhya Pradesh, Gujarat, Maharashtra.
- Globally, India produced **~25%** of the world's milk.

Egg

- **Global Rank: 2nd**
- **Total production:** estimated in **149.11 billion numbers.**
- **Per Capita availability:** reached **106 numbers/annum.**
- Commercial poultry accounted for **84.49%** of the national output.
- **Top Producing State: Andhra Pradesh (18.37%),** Tamil Nadu, Telangana, West Bengal, and Karnataka.

Meat

- **Global Rank: 4th**
- **Total production:** estimated at **10.50 million tonnes.**
- Meat production from poultry constituted **5.18 million tonnes,** about half of the total.
- **Top Producing States: West Bengal (12.46%),** Uttar Pradesh, Maharashtra, Andhra Pradesh, and Telangana.

Wool

- **Total production:** estimated at **34.57 million kg.**
- **Top Producing States: Rajasthan (47.85%),** Jammu & Kashmir, Gujarat, Maharashtra, and Himachal Pradesh.

6.2. GRAIN STORAGE SYSTEM IN INDIA

Why in the News?

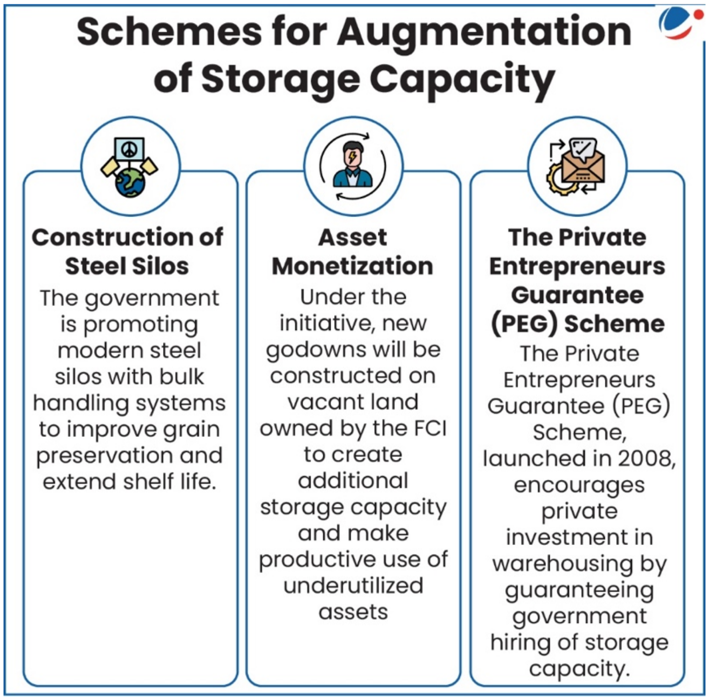
The government has fast tracked the procedures for approval of doubling the credit target for the **Agriculture Infrastructure Fund**, to ensure **safe storage of Food grains.**

Food Grain Storage Systems in India

According to the **Third Advance Estimates for 2024–25**, India achieved **a record foodgrain production of 353.96 million tonnes.**

Major Schemes to Strengthen storage of Foodgrains

- **Agriculture Infrastructure Fund (AIF):** launched in 2020, supports the development of **warehouses, cold storage facilities, sorting and grading units, and logistics infrastructure.**



Schemes for Augmentation of Storage Capacity

Construction of Steel Silos
The government is promoting modern steel silos with bulk handling systems to improve grain preservation and extend shelf life.

Asset Monetization
Under the initiative, new godowns will be constructed on vacant land owned by the FCI to create additional storage capacity and make productive use of underutilized assets

The Private Entrepreneurs Guarantee (PEG) Scheme
The Private Entrepreneurs Guarantee (PEG) Scheme, launched in 2008, encourages private investment in warehousing by guaranteeing government hiring of storage capacity.

- **Agricultural Marketing Infrastructure (AMI):** A component of the **Integrated Scheme for Agricultural Marketing** (ISAM), it provides **financial assistance** for the **construction and renovation** of warehouses and godowns in rural areas.
- **Pradhan Mantri Kisan SAMPADA Yojana (PMKSY):** It is a comprehensive scheme designed to build modern infrastructure for the food processing sector.
- **World's Largest Grain Storage Plan in the Cooperative Sector:** It aims to develop **storage and other agri-infrastructure** at the **PACS level** through **convergence of schemes** such as AIF, AMI etc.

Why do we need better storage?

- **Losses**: According to **the World Bank Report**, the food grains and perishables wasted due to **improper storage** could be sufficient to **feed one-third of the India's poor population**.
- **Price Stability**: Improved storage allows the government **to release stocks during shortages and control price fluctuations.**
- **Supporting Public Distribution System (PDS**)
- **Reducing Farmer Distress:** Better storage facilities **help farmers avoid distress sales**.

Challenges in Food grain storage in India

- **Regional Imbalance in Storage**: Storage infrastructure is concentrated in major procurement states such **as Punjab and Haryana**, while many **eastern and northeastern states lack adequate facilities**.
- **Delay in Creation of Storage Infrastructure:** Storage projects under schemes like **PEG (Private Entrepreneur Guarantee Scheme) faced major delays.**
- **Climate Change:** Rising temperatures and erratic humidity accelerate spoilage and fungal growth.
- **Storage Structures at Farmer Level:** The major construction materials for storage structures in rural areas are mud, bamboo, stones, and plant materials. They are neither rodent-proof, nor secure from fungal and insect attack.

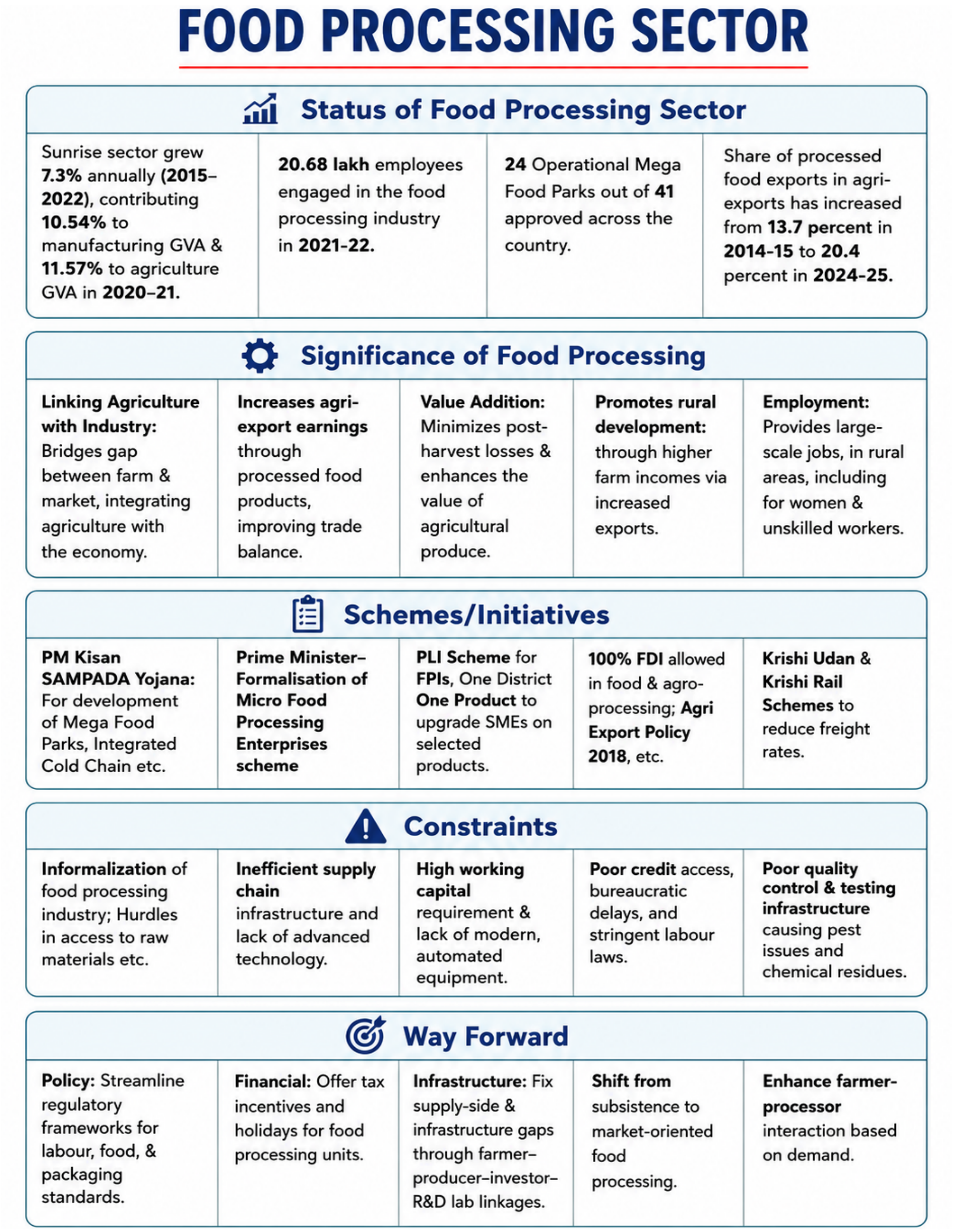
Way Forward

- **CAG Performance Audit Report (2023)**
  - **Augment Scientific Storage Capacity**: The Government **should complete the augmentation of storage facilities** planned under the **National Policy on Handling, Storage and Transportation of Food Grains.**
  - **Phase out CAP (Open) Storage**: **Covered and Plinth (CAP) storage** should be gradually **eliminated and replaced with modern storage infrastructure.**
- **Shanta Kumar Committee (2014)**
  - **Computerization of Storage Management**: The committee emphasized the need for **real-time digital tracking of food grain stocks** across **procurement centres, warehouses and distribution points**.
  - **Private Sector Participation:** FCI's old conventional storages **can be converted to silos** with help of **private sector** and other stocking agencies.
  - **Promotion of Negotiable Warehouse Receipt System**: The committee recommended expanding **the Negotiable Warehouse Receipt (NWR) system**, under which farmers can store their produce in **registered warehouses** and **obtain bank credit** against the stored produce.

Conclusion

A robust and scientific grain storage system is essential for ensuring food security, reducing post-harvest losses, and enhancing farmers' incomes. Strengthening storage infrastructure through modern silos, digital monitoring, decentralized facilities, and greater private participation will be crucial for building a resilient and efficient agricultural supply chain in India.

6.2.1. FOOD PROCESSING SECTOR AT A GLANCE



FOOD PROCESSING SECTOR

Status of Food Processing Sector

Sunrise sector grew **7.3%** annually **(2015–2022)**, contributing **10.54%** to manufacturing GVA & **11.57%** to agriculture GVA in **2020–21.**	**20.68 lakh** employees engaged in the food processing industry in **2021-22.**	**24** Operational Mega Food Parks out of **41** approved across the country.	Share of processed food exports in agri-exports has increased from **13.7 percent** in **2014-15** to **20.4** percent in **2024-25.**

Significance of Food Processing

Linking Agriculture with Industry: Bridges gap between farm & market, integrating agriculture with the economy.	**Increases agri-export earnings** through processed food products, improving trade balance.	**Value Addition:** Minimizes post-harvest losses & enhances the value of agricultural produce.	**Promotes rural development:** through higher farm incomes via increased exports.	**Employment:** Provides large-scale jobs, in rural areas, including for women & unskilled workers.

Schemes/Initiatives

PM Kisan SAMPADA Yojana: For development of Mega Food Parks, Integrated Cold Chain etc.	**Prime Minister–Formalisation of Micro Food Processing Enterprises scheme**	**PLI Scheme** for **FPIs**, One District **One Product** to upgrade SMEs on selected products.	**100% FDI** allowed in food & agro-processing; **Agri Export Policy 2018**, etc.	**Krishi Udan & Krishi Rail Schemes** to reduce freight rates.

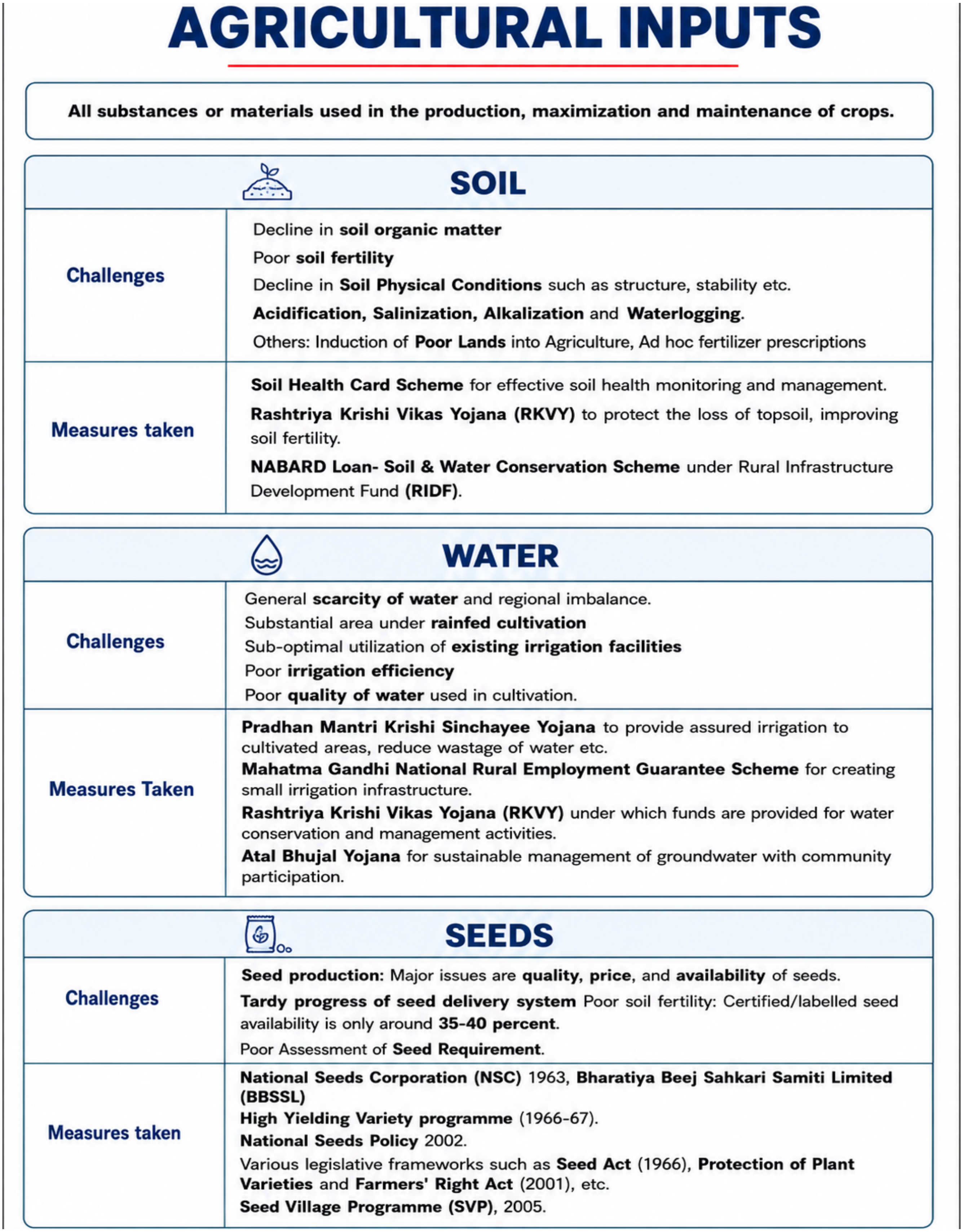
Constraints

Informalization of food processing industry; Hurdles in access to raw materials etc.	**Inefficient supply chain** infrastructure and lack of advanced technology.	**High working capital** requirement & lack of modern, automated equipment.	**Poor credit** access, bureaucratic delays, and stringent labour laws.	**Poor quality control & testing infrastructure** causing pest issues and chemical residues.

Way Forward

Policy: Streamline regulatory frameworks for labour, food, & packaging standards.	**Financial:** Offer tax incentives and holidays for food processing units.	**Infrastructure:** Fix supply-side & infrastructure gaps through farmer–producer–investor–R&D lab linkages.	**Shift from** subsistence to market-oriented food processing.	**Enhance farmer-processor** interaction based on demand.

6.3. AGRICULTURAL INPUTS AT A GLANCE



AGRICULTURAL INPUTS

All substances or materials used in the production, maximization and maintenance of crops.

SOIL

Challenges	Decline in **soil organic matter** Poor **soil fertility** Decline in **Soil Physical Conditions** such as structure, stability etc. **Acidification, Salinization, Alkalization** and **Waterlogging**. Others: Induction of **Poor Lands** into Agriculture, Ad hoc fertilizer prescriptions
Measures taken	**Soil Health Card Scheme** for effective soil health monitoring and management. **Rashtriya Krishi Vikas Yojana (RKVY)** to protect the loss of topsoil, improving soil fertility. **NABARD Loan- Soil & Water Conservation Scheme** under Rural Infrastructure Development Fund **(RIDF)**.

WATER

Challenges	General **scarcity of water** and regional imbalance. Substantial area under **rainfed cultivation** Sub-optimal utilization of **existing irrigation facilities** Poor **irrigation efficiency** Poor **quality of water** used in cultivation.
Measures Taken	**Pradhan Mantri Krishi Sinchayee Yojana** to provide assured irrigation to cultivated areas, reduce wastage of water etc. **Mahatma Gandhi National Rural Employment Guarantee Scheme** for creating small irrigation infrastructure. **Rashtriya Krishi Vikas Yojana (RKVY)** under which funds are provided for water conservation and management activities. **Atal Bhujal Yojana** for sustainable management of groundwater with community participation.

SEEDS

Challenges	**Seed production:** Major issues are **quality, price**, and **availability** of seeds. **Tardy progress of seed delivery system** Poor soil fertility: Certified/labelled seed availability is only around **35-40 percent**. Poor Assessment of **Seed Requirement**.
Measures taken	**National Seeds Corporation (NSC)** 1963, **Bharatiya Beej Sahkari Samiti Limited (BBSSL)** **High Yielding Variety programme** (1966-67). **National Seeds Policy** 2002. Various legislative frameworks such as **Seed Act** (1966), **Protection of Plant Varieties** and **Farmers' Right Act** (2001), etc. **Seed Village Programme (SVP)**, 2005.

AGRICULTURAL INPUTS

PESTICIDES

Challenges	Poor quality of pesticides. Optimum application of pesticide is not practiced. Limited reach of Integrated Pest Management (IPM) techniques which emphasises on use of bio-pesticides. Unregulated price of pesticides.
Measures Taken	**Insecticides Act (I.A.)**, 1968. **Scheme on Monitoring of Pesticide Residues at National Level (MPRNL).** Other initiatives such as Electronic platform for pest surveillance, Regional Pesticide Testing Laboratories, Sensitisation of farmers through media etc. Promotion of organic fertilizers though schemes like **Paramparagat Krishi Vikas Yojana**. **Research Organizations (ICAR/SAU) Interventions** including developing pest resistant varieties, timely dissemination of IPM recommendations etc.

AGRICULTURE MECHANISATION

Challenges	Small size of farms. Hilly and rolling topography. Mixed cropping and integrated farming. Shortage of power. Others: Poor servicing facilities, Surplus agricultural workers etc.
Measures taken	**Sub Mission on Agricultural Mechanization (SMAM):** Objectives includes Promoting Custom Hiring Centres and Hi-tech Hubs of High-Value Machines, Creating awareness etc. Assistance for advanced and women friendly equipment under **Rashtriya Krishi Vikas Yojana**. **Land Conservation Department** offers 90% subsidy to the women establishments for purchasing the machines. Subsidies provided under **NABARD loan scheme**.
Possibilities going forward	Greater engineering inputs and introduction of high capacity, precision, reliable and energy efficient equipments. Developing mechanisation in horticulture and important commercial crops. To set up **'Agriculture Machine Banks' (AMBs)** at District level. Indigenous Research and Development (R&D) to roll out farmer-friendly, location-specific and easy-to-manage agricultural machinery. Leveraging technology

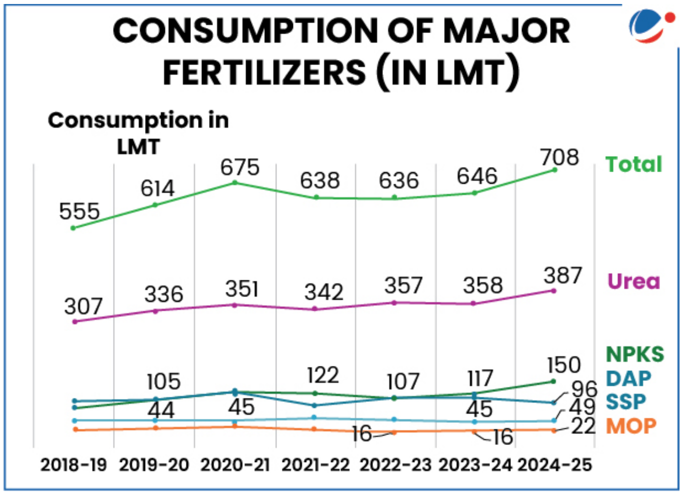
6.3.1. INDIA'S FERTILISER SECTOR

Why in the News?

Parliamentary Standing Committee on Chemicals and Fertilisers presented its report on **Self-Sufficiency in Production of Fertilisers.**

Fertiliser Use in India

- India is the **second-largest consumer** and **third-largest producer** of Fertilizers globally.
- **Major Fertilisers:** The broad variety of chemicals used as fertilisers by farmers in the country includes urea, Di-Ammonium Phosphate (DAP), Muriate of Potash (MOP), Nitrogen, Phosphorus, Potassium, and Sulphur (NPKS), and Single Super Phosphatez


CONSUMPTION OF MAJOR FERTILIZERS (IN LMT)

- **Fertiliser Subsidy Policy:**
    - **Urea Subsidy Scheme:** It aims at ensuring the timely availability of adequate quantity of urea at the statutory controlled price to farmers.
    - **Nutrient-Based Subsidy (NBS) Scheme:** Under it, a fixed amount of subsidy, decided on an annual/bi-annual basis, is provided on subsidized P&K fertilisers depending on their nutrient content.
- **Other Policies**
    - **Monitoring System:** By an on-line web-based monitoring system called **integrated Fertilizer Monitoring System (iFMS)**.
    - **New Investment Policy (NIP), 2012:** It aims to facilitate fresh investment in the urea sector and to make India self-sufficient in the urea sector.
    - **One Nation One Fertiliser:** Launched under Pradhan Mantri Bhartiya Janurvarak Pariyojana (PMBJP), mandating that all Urea, MOP, DAP and NPK will be sold under the uniform Bharat brand to bring uniformity in the quality and brands.
    - **Pradhan Mantri Kisan Samriddhi Kendras (PMKSKs):** One-stop shops that not only sell fertilisers but also provide advisory services, soil testing, and other agri-inputs to farmers

Issues with Fertiliser Use in India

- **Imbalanced Fertiliser Use:** India's N:P:K consumption ratio is highly skewed toward nitrogen (far exceeding the recommended 4:2:1), primarily due to heavy subsidy on urea.
- **Import Dependence:** India is **deficit in sufficient reserves of rock phosphate and imports** nearly 95% of its phosphate requirements from countries like Saudi Arabia, Jordan, Morocco and Russia.
    - India has **no known commercial reserves of potash** and is 100% dependent on imports.
- **Subsidy Burden:** The fertiliser subsidy remains the **second-largest subsidy head** after food, accounting for over **10% of total central expenditure**.
- **Obsolete Technology:** Out of the 33 operational urea plants, 27 plants are older than 25 years and 7 plants are older than 50 years, which uses outdated technology, leading to higher cost of production.
    - Moreover, India is dependent on foreign companies for licensing of process technology.
- **Environmental and Health Impact:** Overuse of chemical fertilizers, especially nitrogen, contributes to environmental pollution, contributing to climate change and water contamination.

Suggested Reforms by Committee

- **Increasing Manufacturing Capacity:** Constituting a task force to promote domestic urea production under the New Investment Policy.
- **Ensuring Supply of Raw Material:** The Committee observed that 90% of the total cost of urea is natural gas, which is largely imported through long-term agreements.

  - The gas procurement mechanism should be modified to ensure a constant supply of natural gas at competitive prices. This will also reduce the cost burden of the subsidy on the government.
- **Controlling Malpractices:** Formulating stringent policies to stop black marketing, establishing a network of labs to check fertiliser quality, and setting up a grievance redressal mechanism.
- **Promotion of Nano Fertilisers:** Increasing production of nano fertilisers and introducing a Production Linked Incentive (PLI) scheme for drones for spraying nano fertilisers.
  - Nano fertilisers are effectively cheaper than conventional fertilisers in the long-term due to lower raw material requirements, higher nutrient uptake, and higher crop yields with lower fertiliser usage.
- **Balanced Fertiliser Use:** Training farmers to encourage balanced use of fertilisers, crop rotation, and natural ways of farming.

Conclusion

India's fertilizer challenge lies not merely in ensuring availability, but in achieving a judicious balance between self-sufficiency, fiscal prudence, and environmental sustainability. Doing so requires a calibrated strategy—strengthening domestic manufacturing, indigenising technology, rationalising subsidies to promote balanced nutrient use, and integrating ecological considerations into farm practices.

VISIONIAS INSPIRING INNOVATION
DAKSHA MAINS
MENTORING PROGRAM 2027

DAKSHA MAINS MENTORING PROGRAM 2027

(A Strategic Revision, Practice, and Enrichment Mentoring Program for Mains Examination 2027)

DATE
5 JUNE

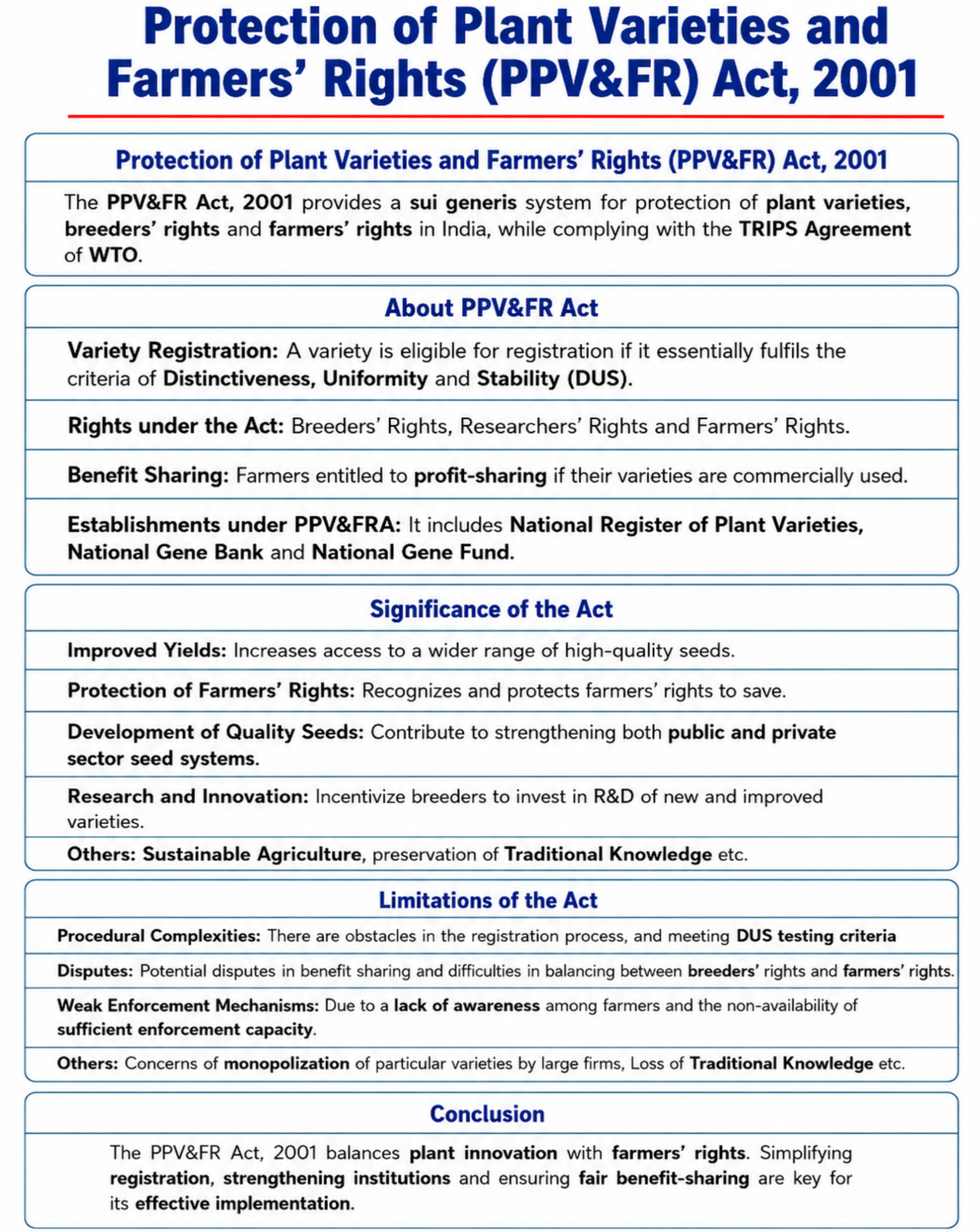
DURATION
5 MONTHS

HIGHLIGHTS OF THE PROGRAMME

- Highly experienced and qualified team of mentors
- Emphasis on score maximization and performance improvement
- Scheduled group sessions for strategy discussions, live practice, and peer interaction
- Personalized one-to-one sessions with mentors
- Well-structured revision and practice plan for GS Mains, Essay & Ethics
- Subject-wise strategy documents based on thorough research
- Access toDaksha Mains Practice Tests
- Continuous performance assessment, monitoring and smart interventions

For any assistance call us at:
+91 8468022022, +91 9019066066
enquiry@visionias.in

6.3.2. PROTECTION OF PLANT VARIETIES AND FARMERS' RIGHTS (PPV&FR) ACT, 2001 AT A GLANCE



Protection of Plant Varieties and Farmers' Rights (PPV&FR) Act, 2001

Protection of Plant Varieties and Farmers' Rights (PPV&FR) Act, 2001

The **PPV&FR Act, 2001** provides a **sui generis** system for protection of **plant varieties, breeders' rights** and **farmers' rights** in India, while complying with the **TRIPS Agreement** of **WTO**.

About PPV&FR Act

Variety Registration: A variety is eligible for registration if it essentially fulfils the criteria of **Distinctiveness, Uniformity** and **Stability (DUS).**

Rights under the Act: Breeders' Rights, Researchers' Rights and Farmers' Rights.

Benefit Sharing: Farmers entitled to **profit-sharing** if their varieties are commercially used.

Establishments under PPV&FRA: It includes **National Register of Plant Varieties, National Gene Bank** and **National Gene Fund.**

Significance of the Act

Improved Yields: Increases access to a wider range of high-quality seeds.

Protection of Farmers' Rights: Recognizes and protects farmers' rights to save.

Development of Quality Seeds: Contribute to strengthening both **public and private sector seed systems.**

Research and Innovation: Incentivize breeders to invest in R&D of new and improved varieties.

Others: Sustainable Agriculture, preservation of **Traditional Knowledge** etc.

Limitations of the Act

Procedural Complexities: There are obstacles in the registration process, and meeting **DUS testing criteria**

Disputes: Potential disputes in benefit sharing and difficulties in balancing between **breeders'** rights and **farmers'** rights.

Weak Enforcement Mechanisms: Due to a **lack of awareness** among farmers and the non-availability of **sufficient enforcement capacity**.

Others: Concerns of **monopolization** of particular varieties by large firms, Loss of **Traditional Knowledge** etc.

Conclusion

The PPV&FR Act, 2001 balances **plant innovation** with **farmers' rights**. Simplifying **registration**, **strengthening institutions** and ensuring **fair benefit-sharing** are key for its **effective implementation.**

6.3.3. PRIMARY AGRICULTURAL CREDIT SOCIETIES (PACS)

Why in the News?

The Government aims to establish new multipurpose PACS/dairy/fisheries cooperatives to cover all panchayats and villages over the next 5 years.

About PACS

- PACS are the **grass-root level institutions** of the **short-term co-operative credit structure** and it acts as a last-mile **link** between borrowers and higher financing institutions such as Scheduled Commercial Banks and RBI/NABARD.
- **Status: PACS sanctioned** (79,630), **new PACS registered** (32,802), **PACS digitized** (61,478).
- **Regulation:**
  - **Multi State PACS**: Entry 44 of Union List of the Constitution and are centrally administered by **Central Registrar of Cooperative Societies (CRCS)** under provisions of **Multi-State Co-operative Societies Act, 2002.**
  - **Single State PACS**: Entry 32 of State List of the Constitution and are administered by the concerned **State Registrar of Cooperative Societies (RCS)** under respective **State Cooperative Societies Act.**
- **Functions:**
  - Gives short-term credit loans and collects repayment from rural borrowers.
  - They can also provide other input services, like seed, fertilizer, and pesticide distribution to member farmers.
- **Significance:**
  - **Financial Inclusion:** PACS account for 41 % of the KCC loans given by all entities in the Country and 95 % of these KCC loans through PACS are to the Small and Marginal farmers (2022).
  - **Credit Base:** PACS is the first building block of the century-old cooperative banking system of India.
  - **Strengthening supply chain:** PACS can also play a major role by integrating its warehouse with the physical and financial supply chain of agro-commodities in the Garmin Agriculture Markets (GrAMs) or large warehouses in the private sector.

Issues Faced by PACS

- **Infrastructure:** Absence of digital infrastructure, such as computerized accounting systems, poor access to internet connectivity limits their ability to streamline operations and also hampers public trust in them.
- **Financial:** PACS suffer from inadequate capital, low levels of deposits, and high non-performing assets (NPAs).
- **Human resource:** Lack of trained staff and insufficient managerial skills among members of PACS hinders their functioning.
- **Governance:** PACS are managed by a body elected from local village groups which results in political Interference.
  - Other governance issues, such as lack of transparency, and inadequate accountability mechanisms have also undermined the effectiveness of PACS.
- **Regional disparity:** PACS are largely concentrated in western and southern states (Maharashtra, Gujarat, Karnataka etc.).

Initiatives taken for PACS Promotion

- **PACS Computerization Project:** Computerization of PACS under a common ERP-based national software.
- **National Cooperation Policy (NCP) 2025**: Membership expansion and leadership roles for women and weaker sections.
- **Adoption of Model Bye-laws:** Enabling PACS to function as multipurpose service centres (PM Kisan Samriddhi Kendras, Common Service Centers, warehousing, custom hiring centers, primary processing).

- **National Cooperative Development Corporation (NCDC):** Established in 1963, NCDC provides loans and grants to State Governments for financing primary and secondary level cooperative societies.
- **Inclusive Governance:**
    - Mandatory representation of women and SC/ST members in cooperative boards under **Multi-State Cooperative Societies (Amendment) Act, 2023**.
    - Inclusion of SHGs, small & marginal farmers and tribal communities.

Conclusion

Primary Agricultural Credit Societies form the backbone of India's cooperative credit architecture and remain indispensable for advancing rural financial inclusion and agricultural development. With effective policy implementation, PACS can evolve into vibrant institutions that not only deliver credit but also catalyze rural entrepreneurship, supply chain integration, and social equity—thereby fulfilling the vision of *"Sahkar Se Samriddhi"* in the grassroots economy.

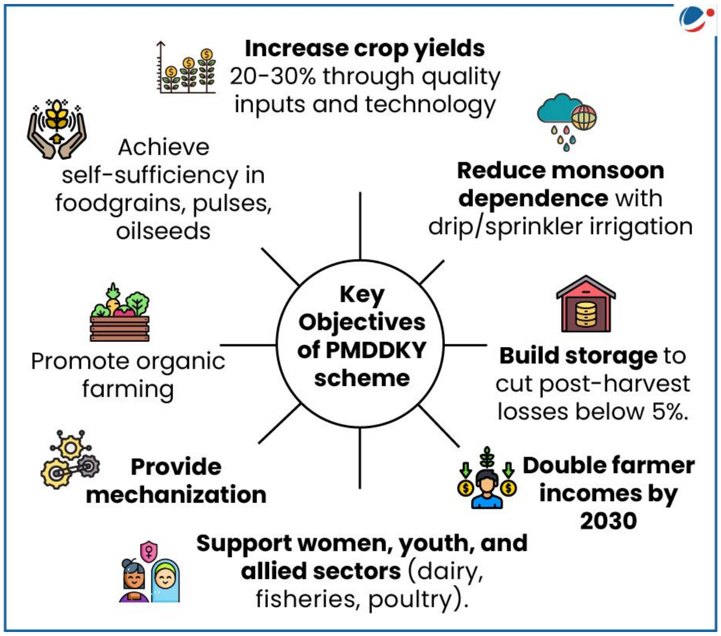
6.4. PM DHAN DHAANYA KRISHI YOJANA

Why in the News?

The Prime Minister launched The **Pradhan Mantri Dhan-Dhaanya Krishi Yojana (PMDDKY)** initiative to revolutionize Indian agriculture by making it more productive, sustainable, and financially rewarding for farmers.

About PM Dhan Dhaanya Krishi Yojana (PMDDKY)

- It consolidates **36 existing agricultural schemes** across **11 ministries**, including **PM-KISAN** (cash transfers), **PMFBY** (crop insurance), **PMKSY** (irrigation), with multiple benefits (refer table).
    - The convergence will **also include state schemes** and **local partnerships with the private sector.**
- **Aim:** To support **1.7 crore farmers**, particularly small and marginal farmers owning less than 2 hectares of land, who constitute 86% of India's farming population (Economic Survey 2024-25).
- **Ministry:** Ministry of Agriculture and Farmers' Welfare.
- **Duration:** 6 Years (2025-26 to 2030-31).
- **Financial Outlay:** Annual budget of **₹24,000 crore** for 6 years, totaling **₹1.44 lakh crore.**
- **Coverage: 100 underperforming districts** with low crop yields, water scarcity, and limited access to resources. (minimum of 1 district from each state).
- **Focus:** On regions with **low crop yields** (e.g., wheat yields below 3.5 tonnes/hectare national average), **moderate cropping intensity** (fewer than 1.55 crop cycles per year), and **limited access to credit**.


Increase crop yields
20-30% through quality inputs and technology
Achieve self-sufficiency in foodgrains, pulses, oilseeds
Reduce monsoon dependence with drip/sprinkler irrigation
Key Objectives of PMDDKY scheme
Promote organic farming
Build storage to cut post-harvest losses below 5%.
Provide mechanization
Double farmer incomes by 2030
Support women, youth, and allied sectors (dairy, fisheries, poultry).

Structural Design and Institutional Mechanism of the scheme

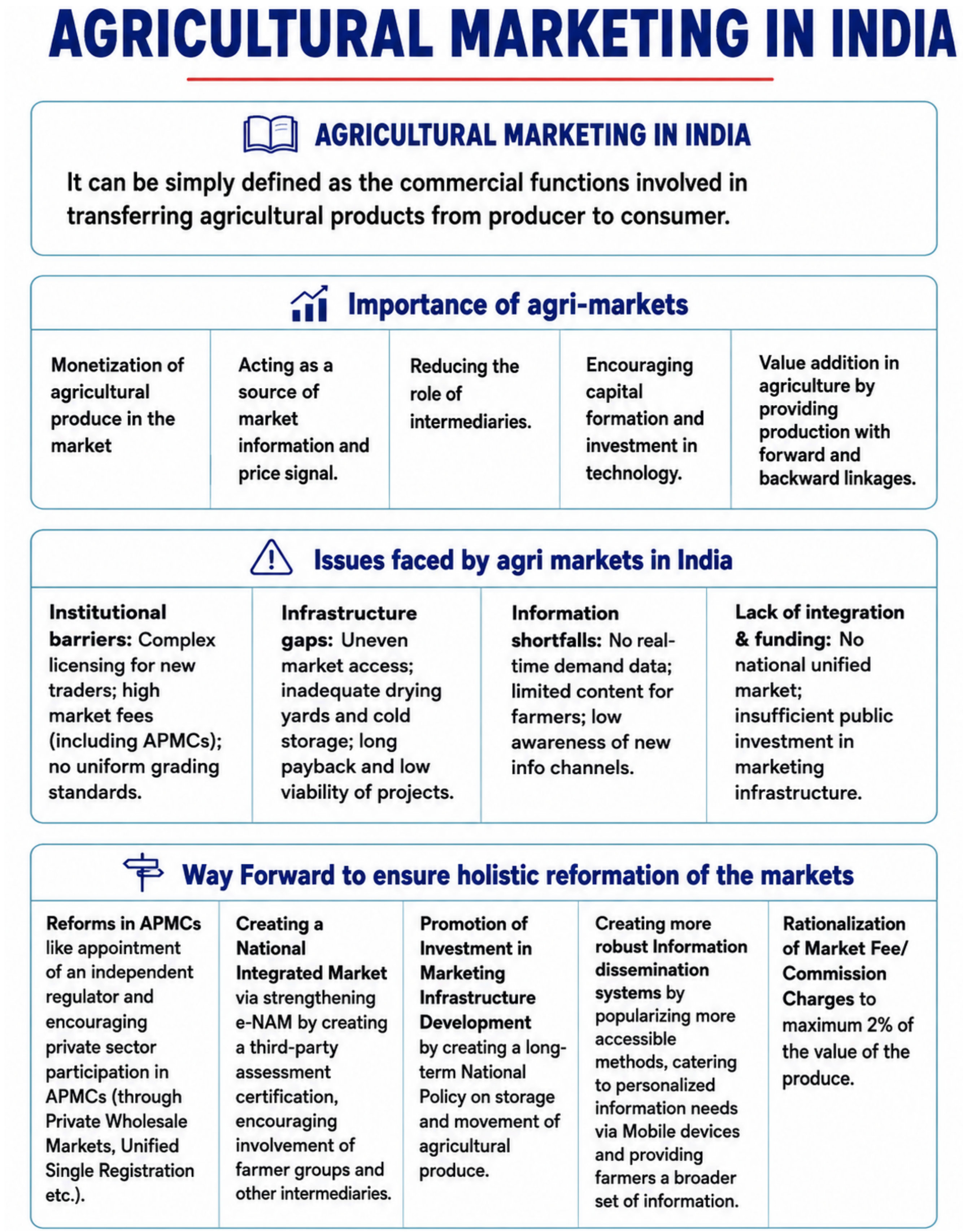
- **National level:** Oversight from a **National Steering Committee**
- **State level:** Nodal committees
- **District level: District Dhan Dhaanya Samitis** led by District Collectors.

Issues in Agriculture	Factors Responsible	Provisions under PMDDKY
Low Crop Productivity	• **Degraded soil, outdated farming methods**, or insufficient irrigation, land fragmentation (~ 86% of farmers own less than 2 hectares (NSSO 2019)). • Eg. **Rice yields in Seemanchal (Bihar) average 1.8 tonnes/hectare** compared to the national 2.7 tonnes.	Provides access to **high-yielding seeds, bio-fertilizers**, and mechanized tools like seed drills.
Lack of assured Irrigation	**Over 52% of India's farmland relies on monsoons** e.g. Bundelkhand's 2023 drought affected 30% of crops.	**Drip and sprinkler systems to ensure water availability**, enabling year-round farming in dry regions.
Lack of Financial Support	**Lack of Modern Resources** due to high costs of high-quality seeds, bio-fertilizers, or mechanized equipment like tractors or harvesters.	Includes **subsidies** and loans through **Kisan Credit Cards or NABARD**.
Absence of Storage Facilities	**Up to 20% of crops**, such as tomatoes and mangoes, **spoil due to inadequate storage facilities** (ICAR 2023).	**Provision of Village and block-level warehouses** and cold storage to prevent spoilage.
Low Farmer Income	**Market inefficiencies** and reliance on middlemen reduce profits	Promotes **diversification into high-value crops like pulses and vegetables**, and direct market access through digital platforms like **e-NAM and new PMDDKY app** to connect farmers directly to buyers.
Lack of Training and Skill Development	Illiteracy, lack of awareness and low participation in skilling programmes especially among women.	• **Free workshops:** by Krishi Vigyan Kendras (KVKs), agricultural universities, and private partners on modern farming, drone use, and allied activities like beekeeping. • **Global Exposure:** Fully funded overseas training for 500 farmers in countries like Israel (drip irrigation), Japan (precision farming), and the Netherlands (greenhouse technology) • **Women Empowerment:** Support for 10,000 women producer groups with training, loans, and market linkages for activities like dairy or organic farming.

Conclusion

The **PM Dhan Dhaanya Krishi Yojana** ensures **scheme convergence, data-driven planning, and resource optimisation**, fostering **integrated agricultural growth, productivity enhancement, and farmer welfare** through holistic, sustainable, and technology-enabled rural transformation.

6.5. AGRICULTURAL MARKETING IN INDIA AT A GLANCE



AGRICULTURAL MARKETING IN INDIA

AGRICULTURAL MARKETING IN INDIA

It can be simply defined as the commercial functions involved in transferring agricultural products from producer to consumer.

Importance of agri-markets

- Monetization of agricultural produce in the market
- Acting as a source of market information and price signal.
- Reducing the role of intermediaries.
- Encouraging capital formation and investment in technology.
- Value addition in agriculture by providing production with forward and backward linkages.

Issues faced by agri markets in India

- **Institutional barriers:** Complex licensing for new traders; high market fees (including APMCs); no uniform grading standards.
- **Infrastructure gaps:** Uneven market access; inadequate drying yards and cold storage; long payback and low viability of projects.
- **Information shortfalls:** No real-time demand data; limited content for farmers; low awareness of new info channels.
- **Lack of integration & funding:** No national unified market; insufficient public investment in marketing infrastructure.

Way Forward to ensure holistic reformation of the markets

- **Reforms in APMCs** like appointment of an independent regulator and encouraging private sector participation in APMCs (through Private Wholesale Markets, Unified Single Registration etc.).
- **Creating a National Integrated Market** via strengthening e-NAM by creating a third-party assessment certification, encouraging involvement of farmer groups and other intermediaries.
- **Promotion of Investment in Marketing Infrastructure Development** by creating a long-term National Policy on storage and movement of agricultural produce.
- **Creating more robust Information dissemination systems** by popularizing more accessible methods, catering to personalized information needs via Mobile devices and providing farmers a broader set of information.
- **Rationalization of Market Fee/ Commission Charges** to maximum 2% of the value of the produce.

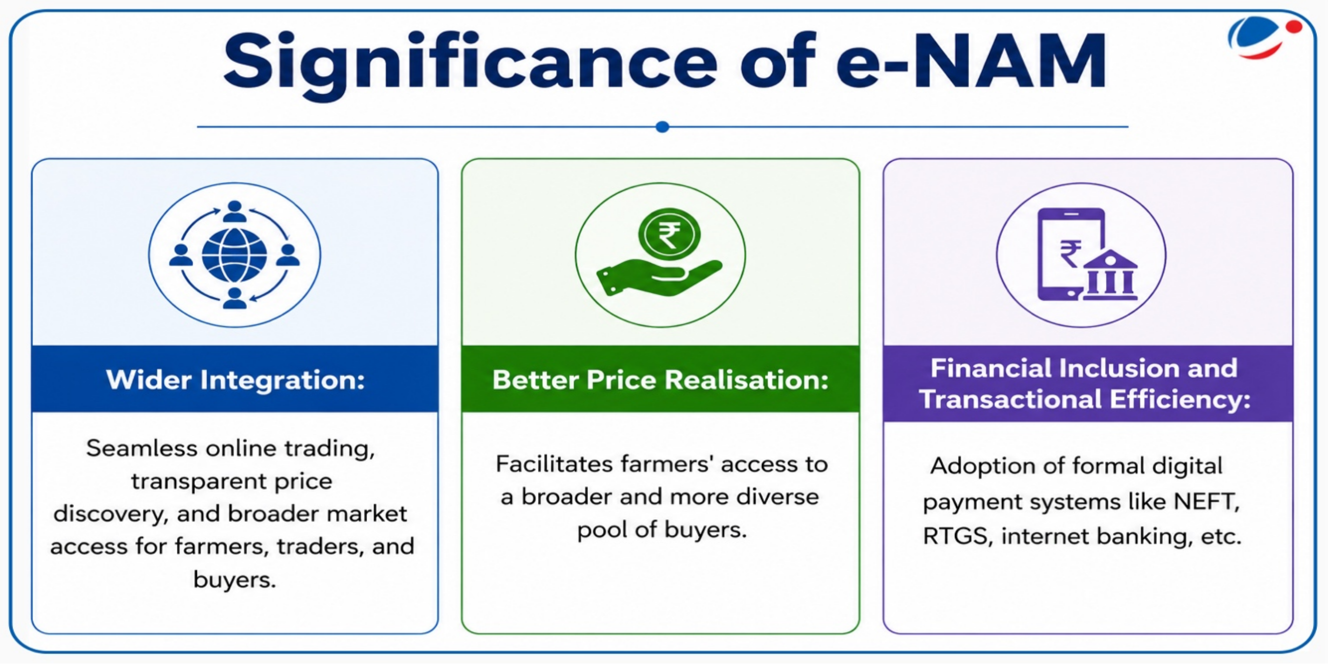
6.5.1. NATIONAL AGRICULTURE MARKET (E-NAM)

Why in the News?

National Agriculture Market (e-NAM), launched in April 2016, completed 10 years of transforming agricultural trade

Key Features of e-NAM

- **One Nation, One Market:** Comprises a multi-layered architecture encompassing **a web portal, mobile application, AI-enabled quality assessment systems, etc.**
- **Implementation: Small Farmers Agribusiness Consortium (SFAC)** is the lead agency for implementation under **Ministry of Agriculture and Farmers' Welfare.**
- **Integration with Electronic Negotiable Warehouse Receipt (e-NWR) system: Farmers, traders, and Farmer-Producer Organizations (FPOs)** can store their produce in WDRA-accredited warehouses, obtain e-NWRs, and sell directly on **e-NAM platform.**
    - e-NWR under **Warehousing (Development and Regulation) Act, 2007** is a secure electronic instrument that **certifies ownership of commodities** stored in **warehouses accredited** by Warehousing Development and Regulatory Authority **(WDRA).**
- **Others:** Inter-state trade facility; live price dashboard; 12-language interface; single window service, **Platform of Platforms (PoP),** etc.



Significance of e-NAM

Wider Integration: Seamless online trading, transparent price discovery, and broader market access for farmers, traders, and buyers.

Better Price Realisation: Facilitates farmers' access to a broader and more diverse pool of buyers.

Financial Inclusion and Transactional Efficiency: Adoption of formal digital payment systems like NEFT, RTGS, internet banking, etc.

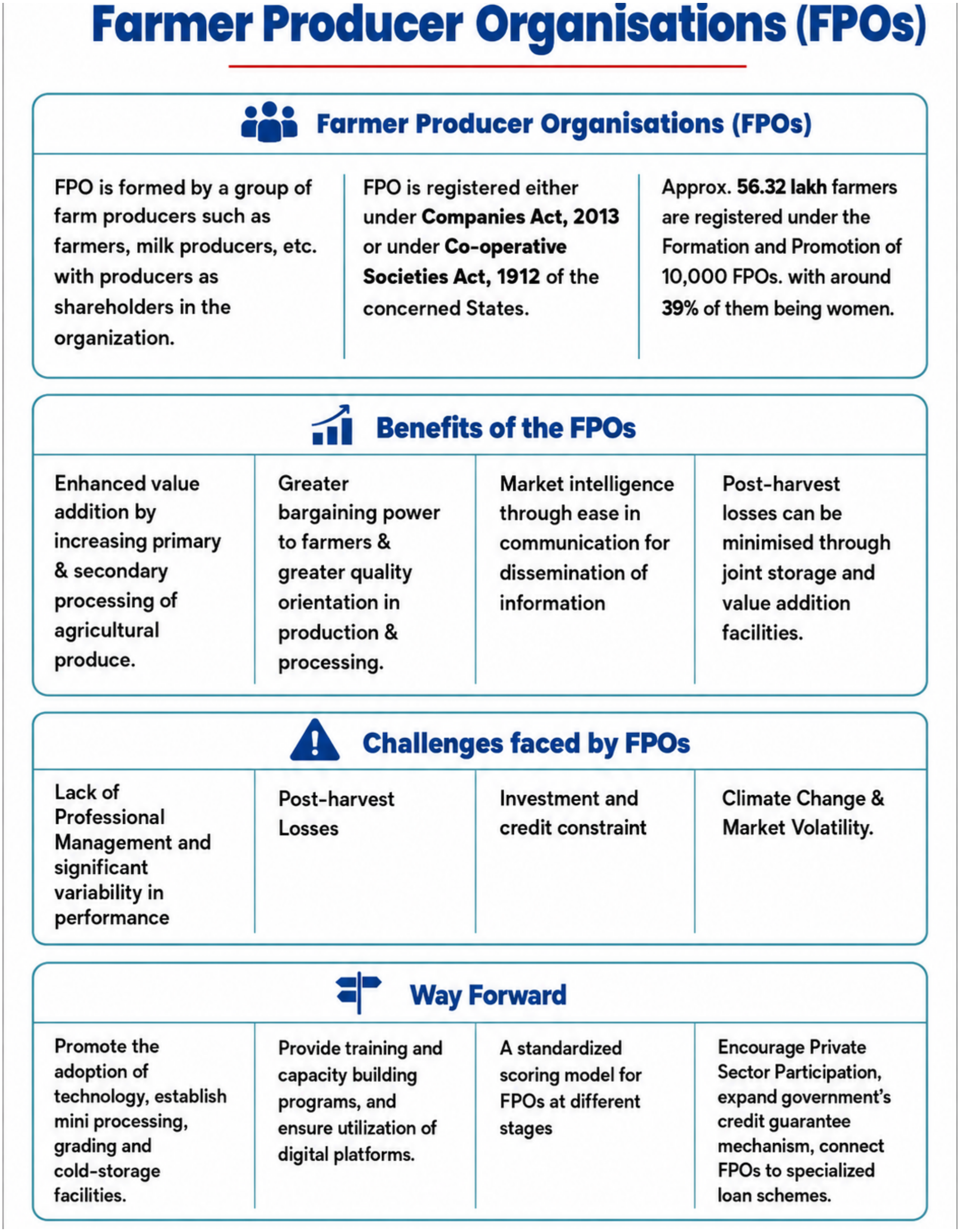
Key Achievements of e-NAM

- **Expanded Network: Number of connected mandis rose** from **1,389 (2024) to 1,656** (March 2026).
- **Growth in Agricultural Trade:** Trading of **13.25 crore metric tonnes** of commodities, generating a total trade value of **₹4.84 lakh crore (2016 to March 2026).**
- **Wider Outreach:** Registered over **1.80 crore farmers**, **2.73 lakh traders**, and **4,724 Farmer-Producer Organizations (FPOs)**.
- It overcame limitations of **Agricultural Produce Market Committee (APMC) mandis** by causing inter-state market integration and wider reach.

Conclusion

Over the past decade, e-NAM has emerged as a key reform in agricultural marketing by enhancing transparency, improving price discovery, and integrating markets across states.

6.6. FARMER PRODUCER ORGANIZATION AT A GLANCE



Farmer Producer Organisations (FPOs)

Farmer Producer Organisations (FPOs)

FPO is formed by a group of farm producers such as farmers, milk producers, etc. with producers as shareholders in the organization.

FPO is registered either under **Companies Act, 2013** or under **Co-operative Societies Act, 1912** of the concerned States.

Approx. **56.32 lakh** farmers are registered under the Formation and Promotion of 10,000 FPOs. with around **39%** of them being women.

Benefits of the FPOs

Enhanced value addition by increasing primary & secondary processing of agricultural produce.

Greater bargaining power to farmers & greater quality orientation in production & processing.

Market intelligence through ease in communication for dissemination of information

Post-harvest losses can be minimised through joint storage and value addition facilities.

Challenges faced by FPOs

Lack of Professional Management and significant variability in performance

Post-harvest Losses

Investment and credit constraint

Climate Change & Market Volatility.

Way Forward

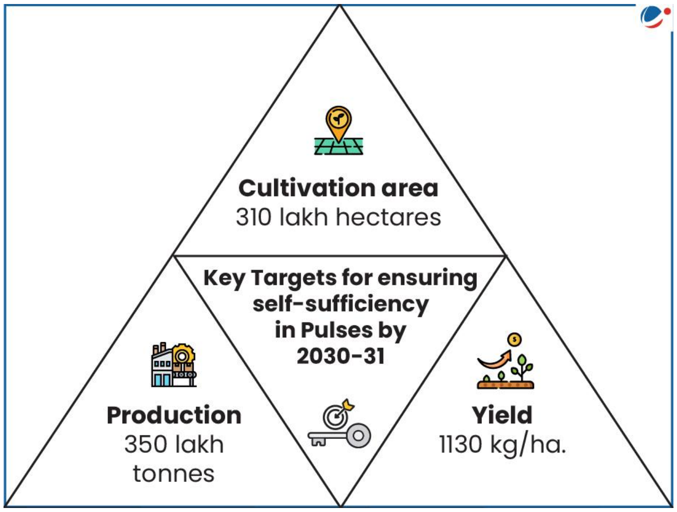
Promote the adoption of technology, establish mini processing, grading and cold-storage facilities.

Provide training and capacity building programs, and ensure utilization of digital platforms.

A standardized scoring model for FPOs at different stages

Encourage Private Sector Participation, expand government's credit guarantee mechanism, connect FPOs to specialized loan schemes.

6.7. MISSION FOR AATMANIRBHARTA IN PULSES



Why in the News?

Prime Minister of India recently launched the **Mission for Aatmanirbharta in Pulses (Dalhan Aatmanirbharta Mission)**.

Key Features of Mission for Aatmanirbharta in Pulses

- **Aim:** Boosting domestic production, reduce import dependence and achieving self-sufficiency (Aatmanirbharta) in pulses by December 2027.
- **Duration:** 6 Years (2025-26 to 2030-31).
- **Financial Outlay:** Rs. 11,440 crore.
- **Ministry:** Ministry of Agriculture & Farmers' Welfare, Government of India
- **Focus Crops:** Tur/Arhar (pigeon pea); Urad (black gram) & Masoor (red lentil).
- **Cluster-based approach**: Tailoring interventions to the specific needs of each cluster.
- **Benefit:** To benefit 2 crore farmers from guaranteed procurement, quality seed distribution, and enhanced value chain support.
- **Other intended benefits:**
    - Promote climate-resilient and soil health-friendly practices.
    - Create substantial employment opportunities.
    - Promoting intercropping and crop diversification.
- **Operational Strategy**
    - **Seed Development and Distribution:** Production and distribution of **126 lakh quintals of certified seeds** and the **free provision of 88 lakh seed kits** to farmers.
        - Emphasis is placed on developing and disseminating **high-yielding, pest-resistant, and climate-resilient pulses varieties.**
    - **Assured Procurement:** 100% procurement of Tur, Urad, and Masoor at MSP for four years.
    - **Role of states**: To ensure effective implementation, states will prepare **rolling five-year seed production plans**, with breeder seed production monitored by ICAR and quality assurance maintained through the SATHI portal.
        - SATHI (Seed Authentication, Traceability & Holistic Inventory) is a user-oriented centralized portal by the Ministry of Agriculture and Farmers' Welfare, in partnership with National Informatics Centre (NIC).
    - **Post-harvest value chain:** Establishing **1,000 processing and packaging units**, supported by **subsidies of up to ₹25 lakh per unit**.

Status of Pulses production in India

- India is **world's largest producer, consumer, and importer of pulses.**
- **Top 3 pulses-producing states**: Madhya Pradesh (largest producer, contributing 22.11% of total production), Maharashtra, and Rajasthan accounting nearly 55% of India's pulse production.
- **Season:** Grown in all three seasons (kharif, rabi, and summer).
- **Important pulses:** Chickpea (47.4%), pigeon pea (15.4%), green gram (12%), black gram (10.3%), and lentil (5.4%)
- **Production trend:** Rose from 192.55 lakh tonnes in FY14 to 244.93 FY24 lakh tonnes.

Need for Aatmanirbharta in Pulses

- **Insufficient Domestic Production:** Domestic production has not kept pace with demand, leading to a 15–20% increase in pulse imports
    - In 2023–24, India imported 47.38 lakh tonnes of pulses, even as it exported 5.94 lakh tonnes.
- **Addressing Malnutrition:** Pulses contribute nearly **20–25 % of total protein intake** in Indian diets, however the per capita consumption of pulses **falls short of the recommended 85 grams per day**.
- **Increasing Demand:** Total demand is projected to reach **46.33 MT by 2030 and 50.26 MT by 2047.**
- **Environmental and Soil Health Benefits:** Pulses enhance soil fertility due to their ability to **fix atmospheric nitrogen**, which helps reduce dependence on synthetic fertilizers,
- **Price and Market Stabilization:** Price fluctuation due to volatility in global trade and domestic production acts as a challenge in meeting inflation targets.

Other initiatives for promoting pulse production

- **National Food Security Mission (NFSM) – Pulses:** Initiated in 2007, focused on area expansion, productivity enhancement, and the adoption of modern technologies.
- **Accelerated Pulses Production Programme (A3P)** (2010–2014): Focused on cluster demonstrations of advanced agricultural practices.
- **PM-AASHA (Pradhan Mantri Annadata Aay Sanrakshan Abhiyan):** Launched in 2018, this umbrella scheme provides price assurance for pulse, oilseeds, and copra.
- **Minimum Support Prices (MSPs):** For key pulse crops, including pigeon pea (tur), chickpea(chana), green gram (Moong), black gram (urad), and lentil (masoor).
- **Buffer Stock Management:** The government maintains a buffer stock of pulses through the Price Stabilization Fund (PSF) and PSS procurement to stabilize consumer prices and ensure availability.
- **Subsidized Retail Distribution (Bharat Dal):** Government launched an initiative to convert stocks of chana (chickpea), mung (green gram), and masur (lentil) into subsidized **"Bharat Dal"** for retail distribution through outlets like NAFED, NCCF etc.

Conclusion

The "Mission for Aatmanirbharta in Pulses" lays the groundwork for a self-reliant, sustainable, and resilient pulses sector. By combining technology, innovation, and farmer empowerment, it will ensure nutritional security, boost rural prosperity, and reduce import dependence — steering India toward true agricultural and economic self-sufficiency.

6.8. SELF-SUFFICIENCY IN EDIBLE OILS

Why in News?

Parliamentary Standing Committee's report on **"Production and Availability of Oilseeds and Pulses in the Country"** highlighted high import dependency of edible oil, straining foreign exchange reserves.

Key Findings of the report

- **High import share**: India imports 56% of its edible oil needs (15.66 MMT in 2023-24).
- **Rising consumption outpacing production**: Domestic consumption of Oilseeds has always outpaced their domestic availability during every year from 2013-14 to 2022-23.
    - Per capita consumption of edible oils has **more than doubled** from 2000-01 to 2020-21, due to population growth, changing consumption patterns, and increasing urbanization.

Reasons for Import Dependency of Edible Oils

- **Reliance on Rainfed Agriculture:** Over 70% of Oilseeds are grown under rainfed conditions which makes the sector highly vulnerable to erratic weather patterns, heat-waves and potential El-Nino events.

- **Yield Gaps:** Almost all Indian edible oil crops exhibit lower yields compared to major global producers, partly due to the **lack of genetically modified (GM) and herbicide-tolerant varieties** used in other countries.
    - E.g. India's groundnut productivity at 2,067 kg/ha vs. Uzbekistan's 15,519 kg/ha.
- **Processing Inefficiencies:** The Indian vegetable oil sector is hindered by small-scale, low-technology plants.
    - The industry currently utilizes only about **30% of its edible oil refining capacity**.
- **Low Seed Replacement Rate (SRR):** The SRR ranges from just 25% for groundnut to 62% for rapeseed-mustard, falling far short of the government target of 80-85%.
- **Biotic and Abiotic Stresses:** Weeds, pests, and diseases consistently plague oilseed crops in traditional farming systems, reducing yields by 20% or more.

Government Efforts for ensuring Self Sufficiency in Edible Oils

- **National Mission on Edible Oils – Oilseeds (NMEO-OS):** Aimed at improving productivity, seed quality, processing, and market linkages for traditional oilseed crops.
- **National Mission on Edible Oils - Oil Palm (NMEO-OP):** Focused on expanding oil palm cultivation and increasing domestic crude palm oil output.
- **Pradhan Mantri Annadata Aay Sanrakshan Abhiyan (PM-AASHA):** Enables procurement of oilseeds at MSP by the Central Nodal Agencies like National Agricultural Cooperative Marketing Federation of India Ltd. (NAFED) under Price Support Scheme component.
- **Raised the effective customs duty:** On crude edible oils like palm, sunflower and soybean from 5.5% to 16.5% to discourage the import of cheap edible oils.
- **Farmer Producer Organizations (FPOs):** Under the 10,000 FPO Scheme, 1,341 FPOs have been specifically formed for oilseeds to empower small and marginal farmers with better input access and market linkages.
- **Others:** Seed Authentication, Traceability and Holistic Inventory (SATHI) portal; National Pest Surveillance System etc.

Way Ahead: Recommendations of the Committee

- **Expanded Procurement:** Expanding MSP procurement under Price Support Scheme of PM-AASHA to 100% of national oilseeds production (from 25% at present).
- **Incentivize production of Palm oil:** Through Viability Gap Payments (VGP) adequately for Fresh Fruit Bunches (FFBs) and subsidizing planting material costs upto 80%.
- **Improve irrigation practices**: Improve coverage of Per Drop More Crop (PDMC) Scheme should be implemented in rainfed Oilseeds areas; increase subsidies for Small/Marginal farmers for purchasing drip and sprinkler systems; train Farmers on micro-irrigation maintenance etc.
- **Import Safeguards:** Dynamically adjusting import duties based on domestic production and imposing a 20% safeguard duty on palm oil imports if global prices fall below $800/tonne.
- **Launch of a 'Bharat Oil' Brand:** To protect lower and middle-income households from market fluctuations.
- **Seed Pricing and Regulation:** A **National Commission** should be set up to fix the upper price ceiling for seeds to prevent exploitation by private companies.
    - Furthermore, a new **Seeds Bill** must be enacted urgently to regulate modern biotechnology, track quality, and protect seed sovereignty.
- **Technological Integration:** Adequate investments in biotechnology (like CRISPR-Cas9), Marker-Assisted selection (MAS) etc. to develop climate-resilient high-yielding, and pest resistant varieties.

Conclusion

India's growing dependence on edible oil imports highlights the urgent need to strengthen domestic oilseed production through technological innovation, improved irrigation, better seed quality, and stronger procurement support.

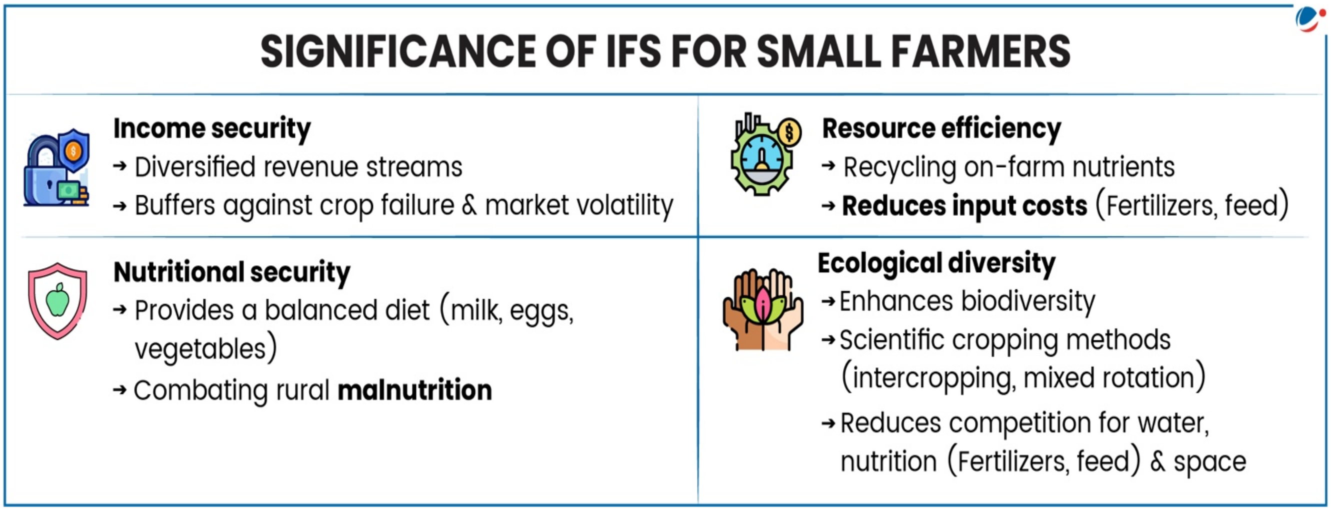
6.9. INTEGRATED FARMING SYSTEMS

Why in the News?

The Union Agriculture Minister urged scientists to develop Integrated Farming Systems for small farmers.

About Integrated Farming System (IFS)

- A **synergistic approach integrating multiple components**: crops, livestock, horticulture, fishery, poultry, and apiary, **on a single farm unit**.
    - **~89.4%** of Indian farmers are operating on small landholdings (<2 hectares).



SIGNIFICANCE OF IFS FOR SMALL FARMERS

Income security
→ Diversified revenue streams
→ Buffers against crop failure & market volatility

Resource efficiency
→ Recycling on-farm nutrients
→ **Reduces input costs** (Fertilizers, feed)

Nutritional security
→ Provides a balanced diet (milk, eggs, vegetables)
→ Combating rural **malnutrition**

Ecological diversity
→ Enhances biodiversity
→ Scientific cropping methods (intercropping, mixed rotation)
→ Reduces competition for water, nutrition (Fertilizers, feed) & space

Challenges

- **Capital Intensive:** Establishing allied sectors (e.g., cattle sheds, fishponds) requires **high initial investment.**
- **Knowledge Gap:** Traditional farmers may lack technical skills to manage complex, multi-layered systems**.**
- **Labour Requirement:** IFS is labour-intensive.

Government Initiatives

- **National Mission for Sustainable Agriculture (NMSA)- Rainfed Area Development (RAD):** The primary mission promoting **location-specific IFS clusters.**
- **Rashtriya Krishi Vikas Yojana (RKVY):** Provides states flexibility to fund **diverse** IFS models and infrastructure.
- **Paramparagat Krishi Vikas Yojana:** Promotes **organic nutrient cycling** between livestock and crop components.
- **Viksit Krishi Sankalp Abhiyan:** Aims to bridge the **lab-to-land gap**, deploying scientists to disseminate region-specific IFS models.
- **ICAR-AICRP:** The **All India Coordinated Research Project (AICRP)** on **IFS** is developing location-specific models across **25 states** to optimize productivity for different agro-climatic zones.

Conclusion

Integrated Farming Systems offer a sustainable pathway to enhance farmers' income, improve resource-use efficiency, and strengthen resilience against climate and market risks.

6.10. BLUE ECONOMY

Why in the News?

The Ministry of Earth Sciences released a white paper titled, **“Transforming India’s Blue Economy: Innovation and Sustainable Growth,”** outlining a **roadmap to 2035.**

Blue Economy in India

- **Definition**: According to The Energy and Resources Institute, **Blue economy** refers to **exploring and optimizing** the potential of the oceans and seas which are under India’s legal jurisdiction **for socio-economic development, environmental sustainability, and national security.**
- **Potential**: India’s extensive **coastline** (**11098 km)** and large **Exclusive Economic Zone (EEZ) of 2.4 million sq. km**, with its **strategic location on vital global shipping lanes** provides significant potential for developing this sector.
- **Current Status**:
  - India’s blue economy contributes **4% of its GDP** and handles **95% of its trade by volume**.
  - **12 major (Vadhavan Port in Maharashtra will be 13th major port) and 200 minor ports** along its coastline**.**
  - **By 2035**, India’s **coastal shipping modal share** is expected to grow from **6% to 33%,** reflecting **robust potential** for economic expansion.

Challenges related to Blue Economy in India

Environmental

- **Climate change impacts**: Warming waters, stronger cyclones, sea-level rise, erosion of coasts and heritage sites.
- **Overfishing** and depletion of fish stocks.
- **Over-tourism and unplanned development** degrading sensitive coastal ecosystems.
- **Limited and incomplete** Environmental Impact Assessments (**EIAs**).
  - **Example: CAG, in a report** in 2022, stated that there are **large-scale violations of coastal zone regulations and EIA norms by several projects in the country.**

Policy and Governance

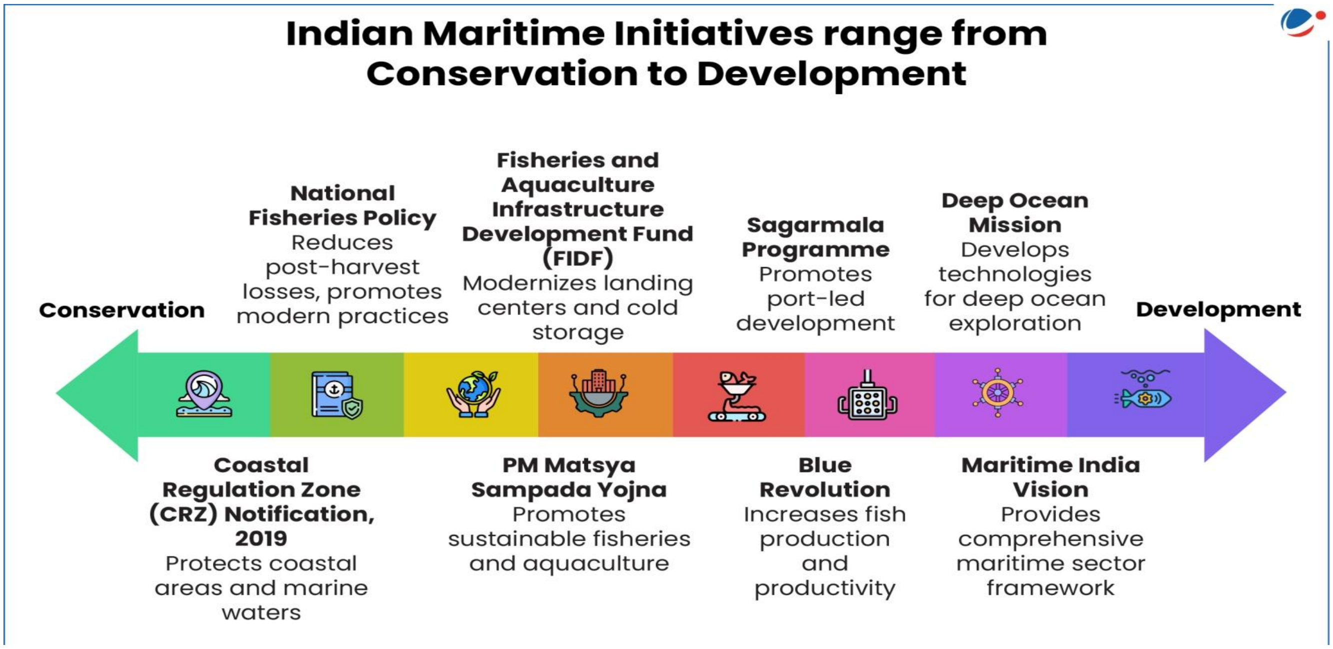
- **Insufficient enforcement** of international commitments and **IMO regulations.**
- Slow adoption of modern regulatory frameworks for **emerging sectors (deep-sea mining, marine biotechnology, renewables).**
- Multiple government ministries and agencies are involved in various aspects of the blue economy (e.g., fisheries, shipping, environment, earth sciences)**, but a unified and coordinated approach is lacking.**

Technological and Infrastructure

- Heavy dependence on **imported specialized equipment** (renewables, deep-sea mining, biotech).
- Limited **shipbuilding and ship repair capacity.**
- **Low commercialization** of research outputs in **biotechnology**.
- Limited access to **advanced deep-sea exploration technology.**
  - **Example:** India has used France's IFREMER's submersible, **Nautile**, for test expeditions in the Atlantic Ocean.

Social and Equity

- **Skill shortages:** Trained technicians, high-skill jobs in ports, biotech, deep-sea ops.
- Weak **representation of marginalized groups** (tribal, women, small-scale fishers) with **economic benefits often bypassing them** along with persistent threat of **displacement**.
  - Example: **women constitute up to 72% of India's coastal fisheries workforce**, they are largely **confined to informal, low-paying jobs**.



Indian Maritime Initiatives range from Conservation to Development

Coastal Regulation Zone (CRZ) Notification, 2019 Protects coastal areas and marine waters

National Fisheries Policy Reduces post-harvest losses, promotes modern practices

PM Matsya Sampada Yojna Promotes sustainable fisheries and aquaculture

Fisheries and Aquaculture Infrastructure Development Fund (FIDF) Modernizes landing centers and cold storage

Sagarmala Programme Promotes port-led development

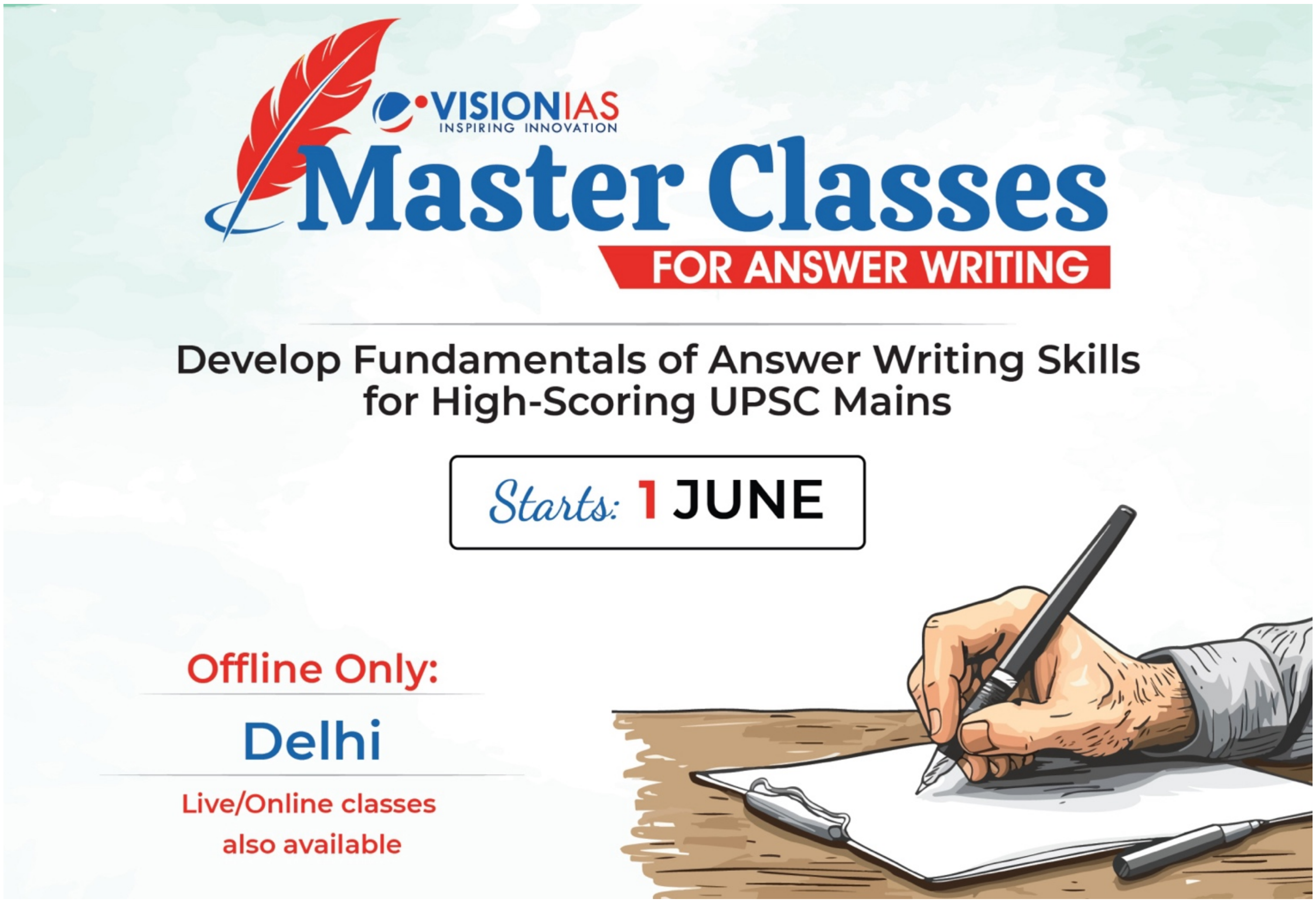
Blue Revolution Increases fish production and productivity

Deep Ocean Mission Develops technologies for deep ocean exploration

Maritime India Vision Provides comprehensive maritime sector framework

Conclusion

Targeted investments in green technologies, resilient infrastructure, and skill development are crucial for India's blue economy. **Sustainable resource management and inclusive participation** along with innovative financing models like **blue bonds, carbon credit markets, and public-private partnerships** will mobilize capital, fostering **long-term competitiveness and resilience** while balancing economic growth with environmental health.



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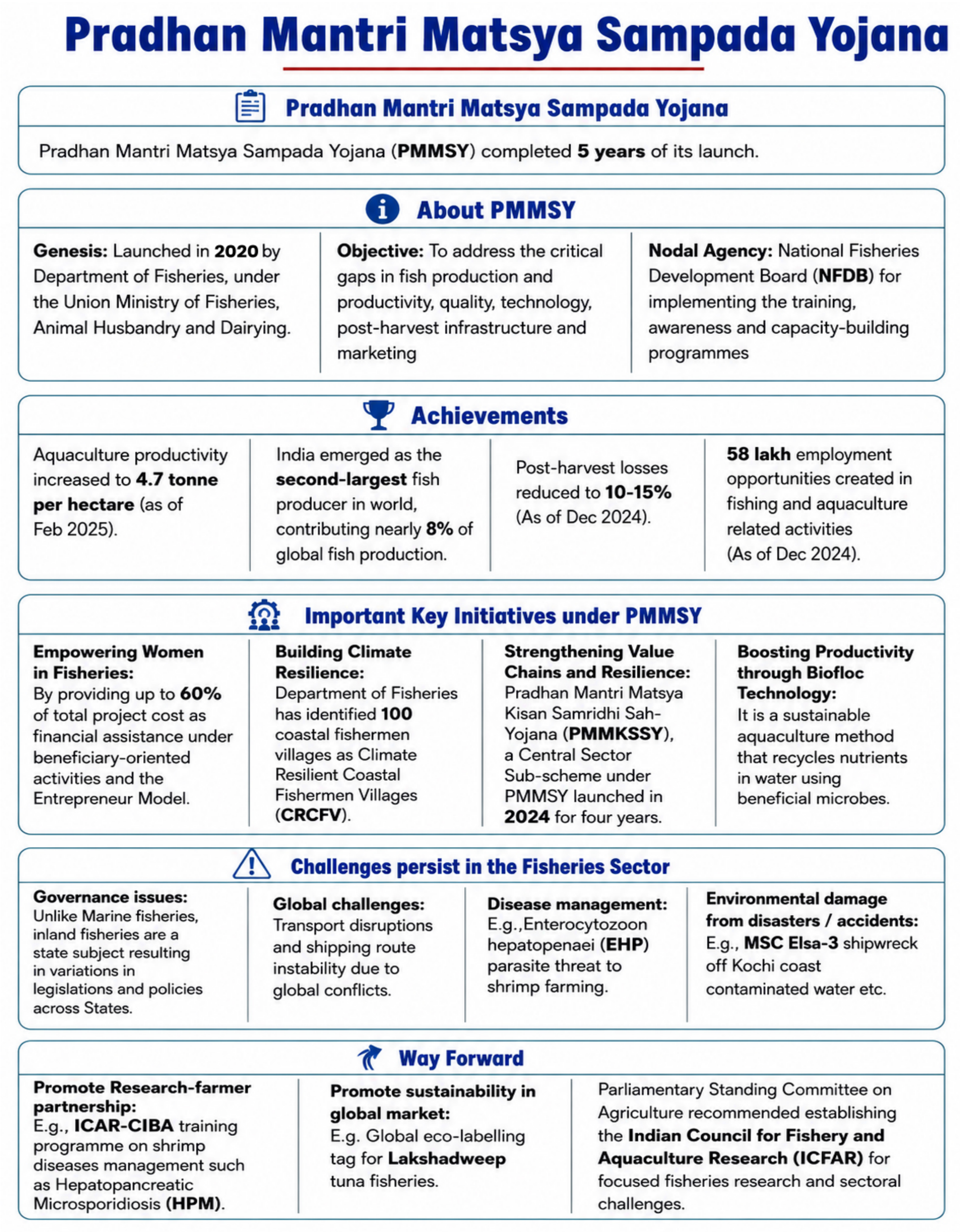
6.10.1. PRADHAN MANTRI MATSYA SAMPADA YOJANA AT A GLANCE



Pradhan Mantri Matsya Sampada Yojana

Pradhan Mantri Matsya Sampada Yojana

Pradhan Mantri Matsya Sampada Yojana (**PMMSY**) completed **5 years** of its launch.

About PMMSY

Genesis: Launched in **2020** by Department of Fisheries, under the Union Ministry of Fisheries, Animal Husbandry and Dairying.

Objective: To address the critical gaps in fish production and productivity, quality, technology, post-harvest infrastructure and marketing

Nodal Agency: National Fisheries Development Board (**NFDB**) for implementing the training, awareness and capacity-building programmes

Achievements

Aquaculture productivity increased to **4.7 tonne per hectare** (as of Feb 2025).

India emerged as the **second-largest** fish producer in world, contributing nearly **8%** of global fish production.

Post-harvest losses reduced to **10-15%** (As of Dec 2024).

58 lakh employment opportunities created in fishing and aquaculture related activities (As of Dec 2024).

Important Key Initiatives under PMMSY

Empowering Women in Fisheries: By providing up to **60%** of total project cost as financial assistance under beneficiary-oriented activities and the Entrepreneur Model.

Building Climate Resilience: Department of Fisheries has identified **100** coastal fishermen villages as Climate Resilient Coastal Fishermen Villages (**CRCFV**).

Strengthening Value Chains and Resilience: Pradhan Mantri Matsya Kisan Samridhi Sah-Yojana (**PMMKSSY**), a Central Sector Sub-scheme under PMMSY launched in **2024** for four years.

Boosting Productivity through Biofloc Technology: It is a sustainable aquaculture method that recycles nutrients in water using beneficial microbes.

Challenges persist in the Fisheries Sector

Governance issues: Unlike Marine fisheries, inland fisheries are a state subject resulting in variations in legislations and policies across States.

Global challenges: Transport disruptions and shipping route instability due to global conflicts.

Disease management: E.g.,Enterocytozoon hepatopenaei (**EHP**) parasite threat to shrimp farming.

Environmental damage from disasters / accidents: E.g., **MSC Elsa-3** shipwreck off Kochi coast contaminated water etc.

Way Forward

Promote Research-farmer partnership: E.g., **ICAR-CIBA** training programme on shrimp diseases management such as Hepatopancreatic Microsporidiosis **(HPM)**.

Promote sustainability in global market: E.g. Global eco-labelling tag for **Lakshadweep** tuna fisheries.

Parliamentary Standing Committee on Agriculture recommended establishing the **Indian Council for Fishery and Aquaculture Research (ICFAR)** for focused fisheries research and sectoral challenges.

6.11. KEYWORDS

Key Words				
Gross Value Added (GVA)	Gross Value of Output (GVO)	Agriculture Infrastructure Fund (AIF)	Food Processing Sector	Soil Health Card Scheme
Pradhan Mantri Krishi Sinchayee Yojana	Nutrient-Based Subsidy (NBS) Scheme	One Nation One Fertiliser	Primary Agricultural Credit Societies (PACS)	National Agriculture Market (e-NAM)
Farmer Producer Organizations (FPOs)	Mission for Aatmanirbharta in Pulses	National Mission on Edible Oils (NMEO)	Integrated Farming System (IFS)	Blue Economy
Pradhan Mantri Matsya Sampada Yojana	Agricultural Marketing			

6.12. PRACTICE QUESTION

Discuss the major challenges faced by India's agriculture and allied sectors in achieving sustainable productivity, farmer income growth and food security. Examine the initiatives undertaken by the government to modernize agriculture, strengthen value chains and promote self-reliance in the sector.

Introduction	Body Part 1	Body Part-2	Conclusion
Introduce the importance of agriculture and allied sectors in livelihoods, food security and economic growth.	Mention key challenges such as low productivity, fragmented landholdings, storage gaps, import dependence, weak marketing infrastructure and climate vulnerabilities.	Mention initiatives like PMDDKY, e-NAM, PMMSY, AIF, Mission for Aatmanirbharta in Pulses, FPOs and reforms in agricultural inputs and value chains.	Conclude with the need for technology-driven, sustainable and market-oriented agricultural reforms for resilient rural development.

7. INDUSTRY AND INDUSTRIAL POLICY

7.1. BHARAT AUDYOGIK VIKAS YOJNA (BHAVYA)

Why in the News

The Union Cabinet approved Bharat Audyogik Vikas Yojna (BHAVYA) to develop 100 plug-and-play industrial parks with an allocation of 33,660 crore rupees.

Key Highlights of the Scheme

- **Nodal Ministry:** Ministry of Commerce & Industry.
- **Objective:** It aims to develop 100 investment-ready plug-and-play industrial parks **(100–1000 acres)** in and near cities, in partnership with States, Central Public Sector Undertakings and private sector.
- **Duration:** The scheme will be operational for a **period of six (6) years commencing from financial year 2026-27 up to 2031-32,** with an **outlay of ₹ 33,660 crores**.
- **Implementation Mechanism**: Implemented by **National Industrial Corridor Development Corporation (NICDC)** under the Department for Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce and Industry in partnership with **States and private sector**.
- **Financial support:** Up to ₹1 crore per acre will be available for eligible projects, while parks developed in partnership with private developers will receive support of up to ₹50 lakh per acre or 50% of infrastructure cost, whichever is lower. Financial support is provided for
  - **Core** infrastructure (roads, utilities, drainage, ICT)
  - **Value-added** infrastructure (factory sheds, labs, warehousing)
  - **Social** infrastructure (worker housing, amenities)
  - **Additional support:** Up to **25% of project cost** for external infrastructure (connectivity and integration with existing networks)

Significance

- **Sustainable and Future-Ready Industrial Park Design**
  - **Green energy and sustainable resource use** with integrated underground utility corridors enabling a no-dig environment for efficient maintenance and uninterrupted industrial operations.
  - Alignment with **PM GatiShakti** for multimodal connectivity
- **Ease of Doing Business:** With pre-approved land, ready infrastructure, single window system and investor-friendly reforms led by states.
  - BHAVYA will significantly reduce entry barriers for investors.
- **Employment Generation:** Creating lakhs of direct and indirect employment across manufacturing, logistics and services
- **Regional Industrial Growth:** Through **cluster-based development** and enabling co-location of industries, suppliers and service providers

Conclusion

The approval of BHAVYA represents a transformational step in India's journey towards Atmanirbhar Bharat, reinforcing the country's manufacturing capabilities, boosting exports and laying the foundation for a resilient, inclusive and globally competitive economy.

7.2. MANUFACTURING SECTOR IN INDIA

Why in the News?

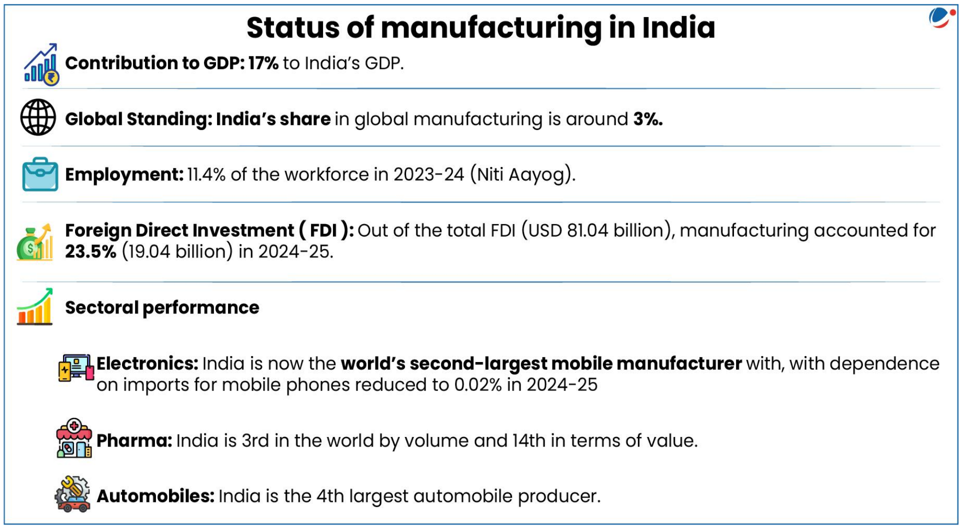
Union Budget 2026–27 proposes a **two-track manufacturing strategy** i.e. strengthening capabilities in **technology-intensive sectors** while sustaining **scale and employment in labour-intensive industries**.

Significance of the change in Manufacturing strategy

- **Two-Track Manufacturing Strategy**: Deepening capabilities in strategic, technology-intensive sectors (like semiconductors and biologics) while simultaneously scaling up employment and export diversification through labour-intensive sectors (like textiles and sports goods).
- **Shift from Strategic Autonomy to Strategic Indispensability**: Ensuring that India becomes a critical and irreplaceable node in Global Value Chains (GVCs).
- **Moving Up the "Smiling Curve"**: By shifting from low-value assembly to higher-value activities like design, R&D, and component manufacturing.
    - **Smiling Curve** is a concept in global value chains showing that **higher value is generated in upstream activities (R&D, design) and downstream activities (branding, marketing)**, while **manufacturing and assembly in the middle create relatively lower value.**
- **Geo-economic Hedging and Supply Security**: By localising critical upstream inputs, India aims to reduce import dependence and strategic vulnerabilities.
    - For instance, the Rare Earth Permanent Magnets scheme seeks to build domestic capacity for EVs and renewables, while Biopharma SHAKTI helps hedge against potential US tariffs on branded drugs.
- **Broad-Based and Inclusive Growth**: Reviving 200 legacy industrial clusters aims to broaden growth beyond high-tech hubs by boosting productivity through shared infrastructure and knowledge spillovers

Significance of Manufacturing

- **Balancing Economic Structure:** Manufacturing shifts labour from low-productivity agriculture to higher-productivity non-farm employment.
- **Employment:** The sector has the highest backward and forward linkages compared to any other sector, i.e., it generates more jobs indirectly for every direct job created.
- **Strategic autonomy**: A strong manufacturing base enhances self-reliance in critical sectors such as defence, semiconductors, pharmaceuticals, and energy equipment.
    - COVID-19 exposed dependence on imports for APIs, medical equipment, and semiconductors.
- **Regional Balance**: Manufacturing can decentralise growth by creating jobs in Tier-2, Tier-3 cities and rural hinterlands, reducing distress migration to metros.
    - E.g.**, Micro & Small Enterprises Cluster Development Programme,** a central sector scheme focusing on rural areas, the northeast, aspirational district for balanced regional development.



Status of manufacturing in India

Contribution to GDP: 17% to India's GDP.

Global Standing: India's share in global manufacturing is around **3%.**

Employment: 11.4% of the workforce in 2023-24 (Niti Aayog).

Foreign Direct Investment (FDI): Out of the total FDI (USD 81.04 billion), manufacturing accounted for **23.5%** (19.04 billion) in 2024-25.

Sectoral performance

- **Electronics:** India is now the **world's second-largest mobile manufacturer** with, with dependence on imports for mobile phones reduced to 0.02% in 2024-25
- **Pharma:** India is 3rd in the world by volume and 14th in terms of value.
- **Automobiles:** India is the 4th largest automobile producer.

Challenges Faced by Manufacturing in India

- **Funding Gaps: By the government and industry for frontier technologies** to support pilot-to-scale transitions.
    - Inadequate adoption of these technologies could result in a reduction of **India's share of global manufacturing to 2.5% by 2035 (NITI Aayog).**
- **Low Investment in R&D**: E.g., R&D spending in India accounted for **only 0.64% of GDP** in 2023, far below China, which spent around 2.5%.

- **Disincentives to Scale:** Stringent regulations incentivise **MSMEs to remain small** to avoid regulations and taxes, reducing employability and scalability.
    - Approx 35.5% of manufacturing output is accounted by MSMEs.
- **Manufacturing vs Services Imbalance:** India experienced services-led growth; bypassing manufacturing-led structural transformation seen in East Asia, e.g. Services account for approximately 55% of GDP.
    - This has resulted in **unemployment** as Services (especially IT and finance) are high-productivity but low-employment sectors.
- **Low labour productivity:** According to the ILO, GDP per working hour in India was $8, placing it at the 133rd position.
- **Unequal distribution**: The top 5 states account for nearly 54% of manufacturing GVA.

Initiatives by Government for boosting Manufacturing

- **'Make in India' Initiative** (2014): It targets the share of **the manufacturing sector to 25% of GDP by 2025,** create 100 mn jobs, increase growth rate of Indian industry to 12-14%/year etc.
- **Production Linked Incentive scheme (2020):** For 14 key sectors to strengthen manufacturing sector by offering incentives to eligible companies **based on incremental sales.**
- **National Logistics Policy (2022):** To reduce the logistics cost to an average of 8% of GDP by 2030. (India's logistics cost has recently dropped to **7.97%** of GDP.)
- **Modified Programme for Semiconductors and Display Manufacturing Ecosystem (under MeitY)**: To attract investments in the field of semiconductors and display manufacturing by providing 50% of project cost as incentive.
- **PM GatiShakti:** To achieve Aatmanirbhar Bharat and a $5 trillion economy by 2025 through multimodal and last-mile connectivity infrastructure.
- **National Industrial Corridor Programme:** To develop competitive greenfield industrial regions and nodes across all approved industrial corridors with 32 projects.

Conclusion

Amid a rapidly evolving global order, the stages of Aatmanirbharta are increasingly overlapping rather than sequential. This necessitates a simultaneous pursuit of **import substitution** (reducing import dependence), **resilience** (continuity and security of supply chains), **and indispensability** (global leadership and enabling leverage in negotiations). By treating manufacturing as an institutional stress test and aligning intent with execution, India can evolve from a recipient of stability to a source of global influence.

7.2.1. STRENGTHENING CAPITAL GOODS SECTOR

Why in the News?

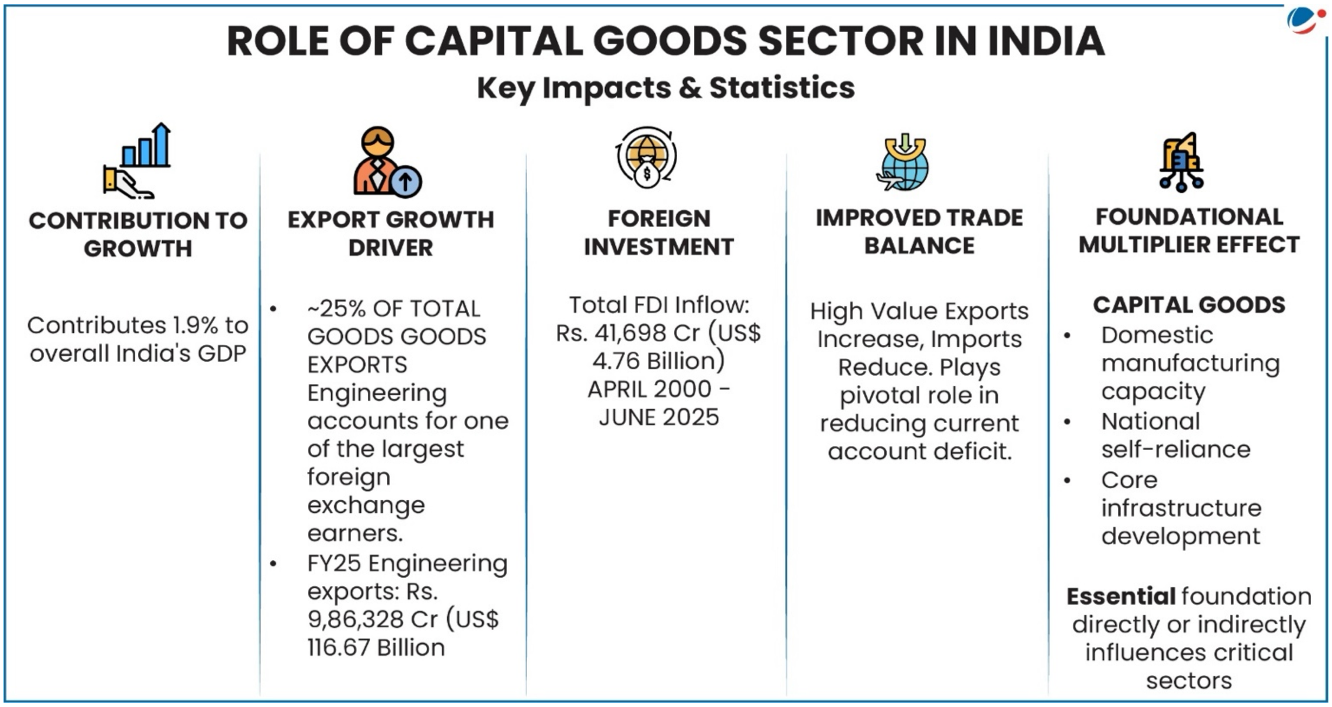
Union Budget FY 2026-27 has announced various support measures for capital goods sector.

Provisions of Union Budget FY 2026-27 for Capital Goods Sector

- **Public CapEx:** Increased by ~9% to ₹12.2 lakh crore.
- **Scheme for Enhancement of Construction and Infrastructure Equipment (CIE):** Initiative to boost domestic manufacturing of advanced construction and infrastructure equipment (e.g., lifts, fire-fighting gear, tunnel-borers).
- **Toll & Electronics Manufacturing:** 5-year income tax exemption for non-resident entities supplying capital goods/tooling to toll manufacturers in bonded zones.
- **Energy Transition:** Basic customs duty exemption on capital goods extended to include Lithium-Ion cell manufacturing for battery energy storage systems.
- **Hi-Tech Tool Rooms:** CPSEs to establish two automated facilities for localized design, testing, and manufacturing of precision components.
- **Container Manufacturing:** ₹10,000 crore allocated over 5 years.

About Capital Goods Sector

- **Capital goods =** plant/machinery/equipment needed directly or indirectly for production or service delivery.
  - Also **covers assets for replacement**, modernisation, tech-upgradation, or capacity expansion.
  - They are **not for direct consumption** but create production capacity.
- **Sub-Sectors:** Sector comprises machine tools, textile machinery, electrical equipment, mining machinery, plastics processing machinery, moulds and press tools, food processing machinery etc.
- **Status in India:** With a total market size of US$ 92 billion and production valued at US$ 32 billion, Capital Goods sector, contributes to around 12% of India's manufacturing output.



ROLE OF CAPITAL GOODS SECTOR IN INDIA

Key Impacts & Statistics

CONTRIBUTION TO GROWTH

Contributes 1.9% to overall India's GDP

EXPORT GROWTH DRIVER

- ~25% OF TOTAL GOODS GOODS EXPORTS Engineering accounts for one of the largest foreign exchange earners.
- FY25 Engineering exports: Rs. 9,86,328 Cr (US$ 116.67 Billion

FOREIGN INVESTMENT

Total FDI Inflow: Rs. 41,698 Cr (US$ 4.76 Billion) APRIL 2000 - JUNE 2025

IMPROVED TRADE BALANCE

High Value Exports Increase, Imports Reduce. Plays pivotal role in reducing current account deficit.

FOUNDATIONAL MULTIPLIER EFFECT

CAPITAL GOODS

- Domestic manufacturing capacity
- National self-reliance
- Core infrastructure development

Essential foundation directly or indirectly influences critical sectors

Challenges faced by capital goods sector

- **High import dependence in advanced machinery**: Due to weak domestic R&D, around 40% capital goods are imported in India.
  - **R&D Investment** in sector is ~0.9% of GDP, well below the National Capital Goods Policy target of 2.8%.
- **Infrastructure & Capital Burdens:** Infrastructure deficits create ~ 5% cost disadvantage for Indian manufacturers vs. global competitors.
- **Precision Ecosystem Deficit:** A critical lack of domestic capacity for globally competitive, high-precision manufacturing.
- **Tax & Duty Inefficiencies:** Inverted duty structures and state-wise tax variations lead to ~ 24% cost disadvantage from indirect taxes.
- **Severe Skill Gaps:** ~60% of the workforce (aged 15–59) lacks vocational training, causing a shortage of industry-ready labor.
- **Sector Fragmentation:** The industry is dominated by MSMEs whose small operating scale restricts their ability to acquire technology or develop new products.
  - **Export Barriers:** Untapped export potential hindered by a lack of long-term financing, non-tariff barriers, and inadequate trade incentives.

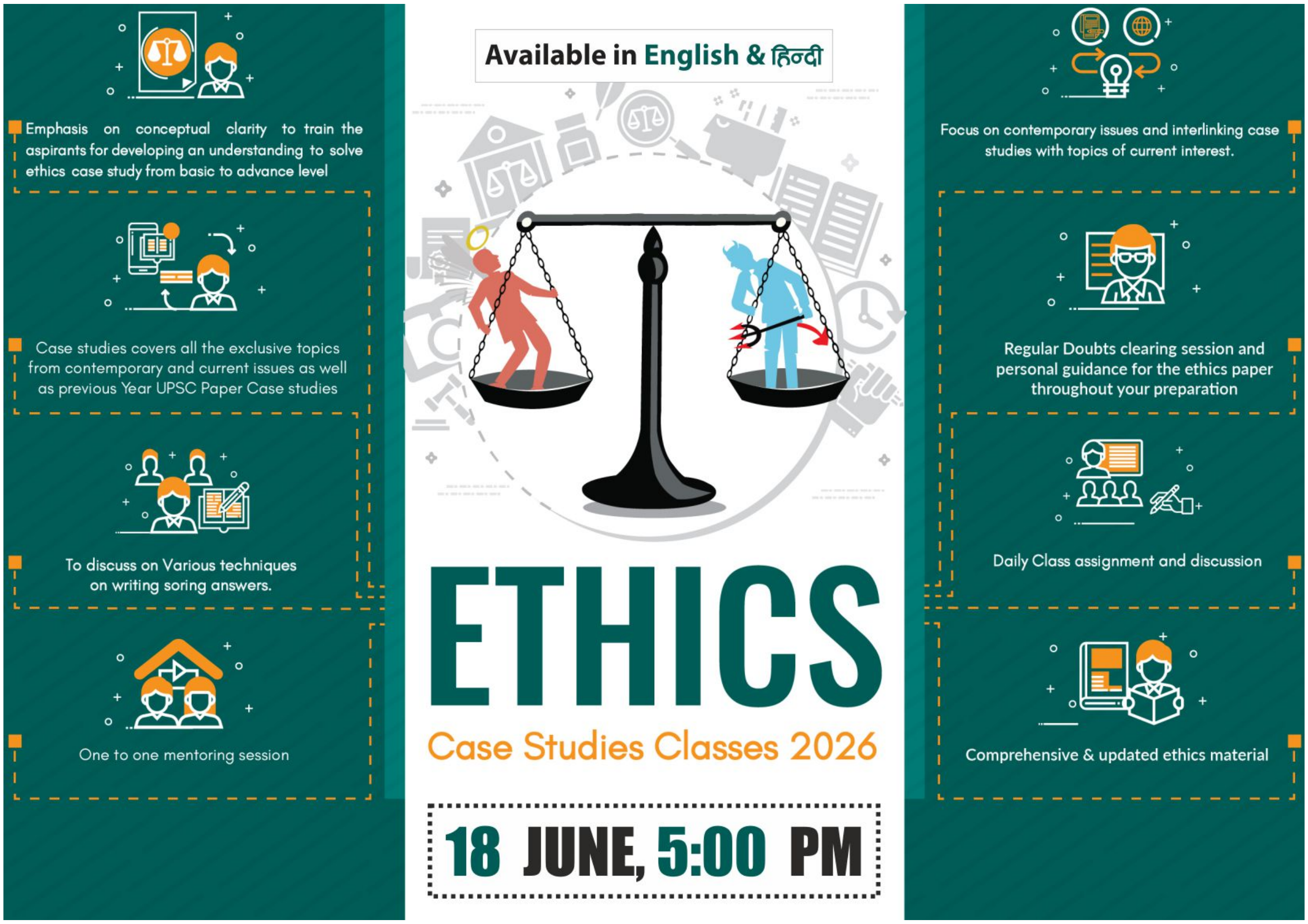
Policies/Schemes promoting Capital Goods

- **National Capital Goods Policy, 2016**: It aimed to boost India's capital goods sector by raising its manufacturing share from 12% in 2016 to 20% by 2025.

  - However, it couldn't achieve its objectives. To further streamline this, a Draft National Capital Goods Policy 2025 has been formulated.
- **Department for Promotion of Industry and Internal Trade (DPIIT**): Promote industrial development by facilitating investment in new and upcoming technology, accelerate FDI and support a balanced development.
- **Scheme for Enhancement of Competitiveness in the Indian Capital Goods Sector:** Industry-academia demand-driven model, projects are proposed by industry for govt funding.
- **PM Gati Shakti Mission:** It is a digital infrastructure development platform integrating planning and execution across 16 key ministries, creating a unified approach to industrial development.
- **Liberal Policy:** De-licensed engineering sector, 100% FDI under the automatic route (except from land-border nations), unrestricted technology transfer payments, and no import or export restrictions.
- **Washington Accord (WA):** India became a permanent member of the Washington Accord (WA) which is an elite international agreement on engineering studies and the mobility of engineers.
- **Make in India:** Seeks to increase the **manufacturing sector's contribution to GDP**, **generate employment**, and **improve technological capabilities**.

Conclusion

Capital Goods (CG) sector functions as the foundational multiplier of the Indian economy. Beyond its 1.9% GDP contribution, it determines the technological intensity of the entire manufacturing landscape. With sustained policy support and 0ns away from sole reliance on China, by giving attracting incentives for investments.



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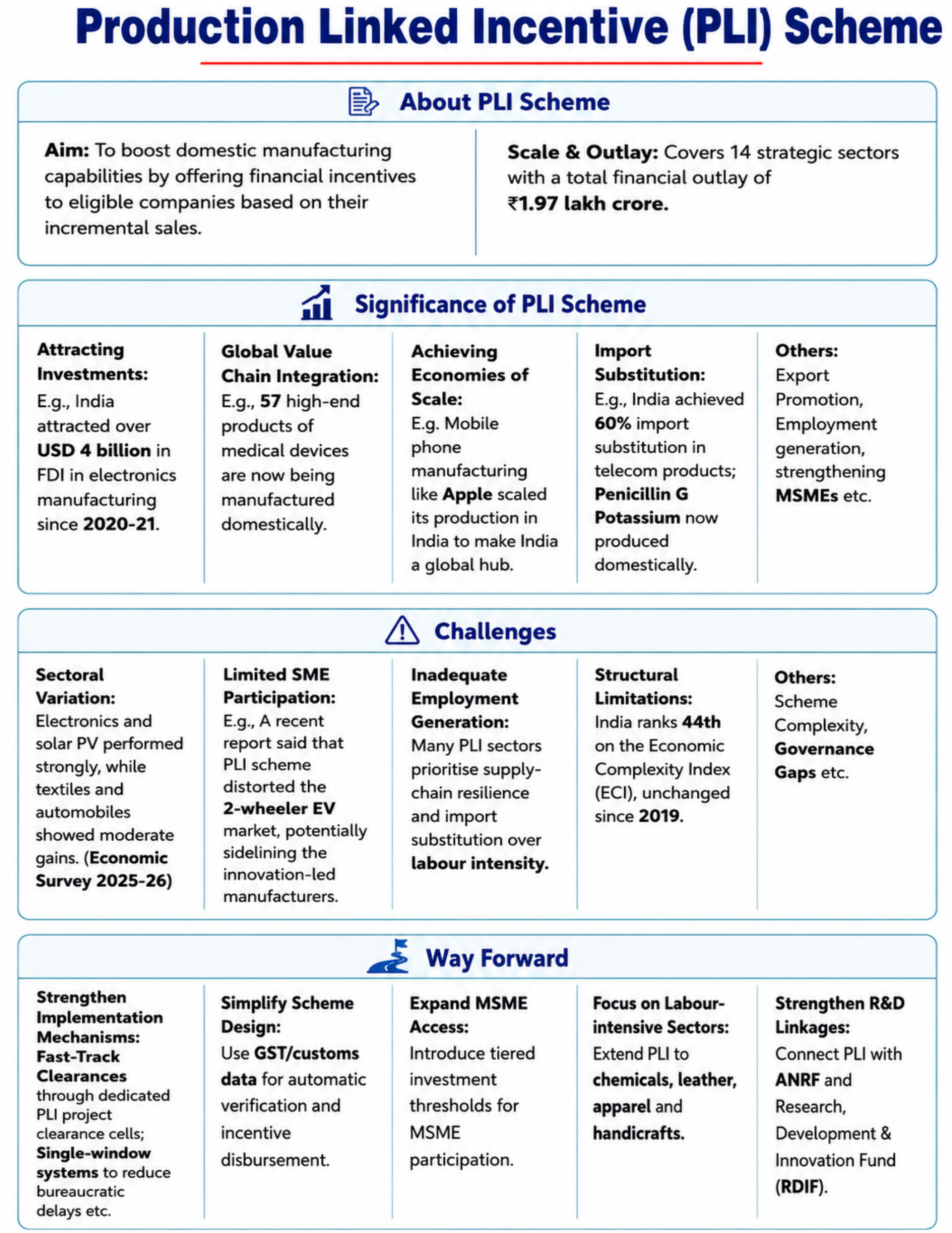
7.2.2. PRODUCTION LINKED INCENTIVE (PLI) SCHEME AT A GLANCE



Production Linked Incentive (PLI) Scheme

About PLI Scheme

Aim: To boost domestic manufacturing capabilities by offering financial incentives to eligible companies based on their incremental sales.

Scale & Outlay: Covers 14 strategic sectors with a total financial outlay of **₹1.97 lakh crore.**

Significance of PLI Scheme

- **Attracting Investments:** E.g., India attracted over **USD 4 billion** in FDI in electronics manufacturing since **2020-21.**
- **Global Value Chain Integration:** E.g., **57** high-end products of medical devices are now being manufactured domestically.
- **Achieving Economies of Scale:** E.g. Mobile phone manufacturing like **Apple** scaled its production in India to make India a global hub.
- **Import Substitution:** E.g., India achieved **60%** import substitution in telecom products; **Penicillin G Potassium** now produced domestically.
- **Others:** Export Promotion, Employment generation, strengthening **MSMEs** etc.

Challenges

- **Sectoral Variation:** Electronics and solar PV performed strongly, while textiles and automobiles showed moderate gains. (**Economic Survey 2025-26)**
- **Limited SME Participation:** E.g., A recent report said that PLI scheme distorted the **2-wheeler EV** market, potentially sidelining the innovation-led manufacturers.
- **Inadequate Employment Generation:** Many PLI sectors prioritise supply-chain resilience and import substitution over **labour intensity.**
- **Structural Limitations:** India ranks **44th** on the Economic Complexity Index (ECI), unchanged since **2019.**
- **Others:** Scheme Complexity, **Governance Gaps** etc.

Way Forward

- **Strengthen Implementation Mechanisms: Fast-Track Clearances** through dedicated PLI project clearance cells; **Single-window systems** to reduce bureaucratic delays etc.
- **Simplify Scheme Design:** Use **GST/customs data** for automatic verification and incentive disbursement.
- **Expand MSME Access:** Introduce tiered investment thresholds for MSME participation.
- **Focus on Labour-intensive Sectors:** Extend PLI to **chemicals, leather, apparel** and **handicrafts.**
- **Strengthen R&D Linkages:** Connect PLI with **ANRF** and Research, Development & Innovation Fund **(RDIF).**

7.2.3. TEXTILES SECTOR IN INDIA

Why in the News

Union Budget 2026-27 outlines government initiatives to strengthen textiles, support weavers and artisans, boost exports, and create employment.

Textile Sector in India

- **Economic Contribution:** ~2% to total GDP of the Country and 11% of total manufacturing GVA.
- **Employment:** 2nd largest employment generator in the country.
- **Support MSME ecosystem:** ~80% of the industry's capacity is spread across MSMEs.

India's Thriving Textile Sector

- **World's largest cultivator** of cotton by acreage
- **Largest producer of jute**
- **2nd -largest producer of silk** and cotton
- **2nd major global hub** in man-made fibres (MMF) segment
- **2nd-largest producer** of polyester and viscose fibres
- **6th largest global** exporter of textiles and apparel

Key Announcements in Budget 2026-27

- **Integrated Programme for the Textile Sector**: It is structured around five key sub-components-
  - **National Fibre Scheme** for domestic fibre self-reliance
  - **Textile Expansion and Employment Scheme** to modernize traditional clusters
  - **National Handloom and Handicraft Programme** to unify artisan support
  - **Tex-Eco Initiative** for sustainable manufacturing
  - **Samarth 2.0** skilling program.

Other Government Initiatives

- **Production Linked Incentive (PLI) Scheme for Textiles**
- **PM MITRA (Mega Integrated Textile Region and Apparel) Parks**
- **Amended Technology Upgradation Fund Scheme (ATUFS):** To provide capital subsidies targeting the MSME-driven textile industry
- **National Technical Textiles Mission (NTTM)**
- **Textile Cluster Development Scheme (TCDS)**
- **Tex-RAMPS:** Textiles Focused Research, Assessment, Monitoring, Planning and Start-up Scheme
- **Silk Samagra Scheme**

- **Mega Textile Parks and Technical Textiles**: Setup of **Mega Textile Parks in challenge mode** to provide integrated infrastructure and scale efficiencies.
- **Mahatma Gandhi Gram Swaraj Initiative:** It aims to strengthen the khadi, handloom and handicraft sectors by improving global market linkages, modernising processes and supporting the One District One Product (ODOP) initiative.
- **Export Promotion Measures:** The export obligation period was extended from 6 to 12 months to provide greater flexibility to exporters of textile garments, footwear and leather products made using duty-free imported inputs.
- **Liquidity Support for MSMEs through TReDS**: Mandatory TReDS use for CPSE purchases, introducing credit guarantee support mechanism through CGTMSE, GeM-TReDS integration, and introduction of TReDS receivables as asset-backed securities.

Challenges with textile industry

- **Fragmentation & Lack of Complete Value Chains:** Many units (especially MSMEs / small firms) handle only one or two stages (e.g. spinning, or weaving, or garmenting) hindering **economies of scale, slowing down response times, increasing logistics cost, reducing quality control**, etc.
- **Raw Material Constraints**: Poor cotton quality, climate-hit cotton yields, and import-dependence for synthetic fibres.

- **Intense Global Competition**: Competition from Bangladesh and Vietnam, dumping of cheap man-made fibre (MMF) fabrics from China.
- **Infrastructure Bottlenecks:** Poor processing & finishing units, lack of eco-friendly effluent treatment, standardization (testing, quality labs), power supply, etc. affects export competitiveness.
- **Obsolete Technology & Low Productivity:** Many current textile units have older machinery, under-efficient dyeing/processing, and low automation. This **raises cost, reduces competitiveness** against global players, such as **China and Vietnam**.
  - Heavy reliance on manual labour leading to error and reduced productivity.
- **Resource Management**: Skill shortages and highly fragmented nature, with over 90% of weaving units in the unorganised sector.
- **Underinvestment & Poor Scale:** Existing schemes like **SITP (Scheme for Integrated Textile Parks)** have **not achieved size and scale** needed for global competitiveness.
- **Complex Regulatory Frameworks:** DGFT red tape, inconsistent GST rates, and costly Quality Control Orders (QCOs) impede competitiveness.

Way Forward

- **Adopt Advanced Automation:** Integrate smart looms, AI-driven demand forecasting, and RFID traceability.
- **Invest in Infrastructure and R&D:** Establish Mega Textile Parks equipped with plug-and-play digital infrastructure to enable scale efficiencies.
- **Focus on Technical Textiles:** Diversify into high-value, specialized segments like technical and performance fabrics to capture new global demand.
- **Boost Domestic Man-Made Fibres (MMF):** Reduce reliance on imported synthetic fibers by encouraging domestic production of MMF and new-age fibers under the National Fibre Scheme.
- **Enhance Cotton Supply Chains:** Improve transparency and global acceptance of Indian cotton through digital tools like the Kapas Kisan app and branding initiatives like 'Kasturi Cotton Bharat'.
- **Leverage Free Trade Agreements:** Actively utilize agreements like the India-EU FTA to gain zero-duty access to major international markets.
- **Upskill the Workforce:** Counter the severe skill shortage by providing vocational training and utilizing the upgraded Samarth 2.0 program.

Conclusion

The textile sector remains a cornerstone of India's manufacturing, exports, and employment landscape. With targeted reforms, modern infrastructure, technological upgradation, and greater integration into global value chains, India can transform its textile industry into a globally competitive, sustainable, and employment-intensive growth engine.

7.2.3.1. PRIME MINISTER MEGA INTEGRATED TEXTILE REGION AND APPAREL (PM MITRA) SCHEME

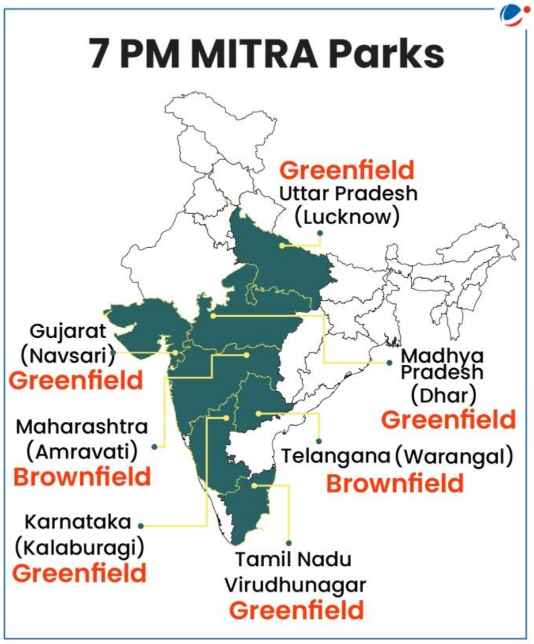
Why in the News?

Recently, the Prime Minister laid the foundation stone of **PM MITRA Park** in **Dhar District in Madhya Pradesh.**

About PM MITRA Scheme

- **Launched**: By the **Ministry of Textile** with an outlay of ₹ 4,445 crore **from 2021-22 to 2027-28**.
- **Objective:** To establish **large-scale textile manufacturing hubs** with world-class infrastructure and facilities. In 2023, **7 sites were identified across India (refer map).**
  - These parks will facilitate **total value-chain of the textile industry** including **spinning, weaving, processing, garmenting, textile manufacturing, and processing & printing machinery industry** at one place.
- **Vision**: **"5F" vision (Farm → Fibre → Factory → Fashion → Foreign)** to integrate and scale up the textile ecosystem.
- **Goals: Attract investment** of about **₹70,000 crore** and generate **nearly 20 lakh direct and indirect jobs.**

- **Structure & Implementation:**
    - Each MITRA Park is to be developed under a **Special Purpose Vehicle (SPV)** jointly owned by the **Centre (49% equity)** and the respective **State Government (51% equity).**
    - The mode is largely **public-private partnership (PPP)**, with a master developer selected to build and maintain infrastructure.
- **Financial Incentives & Support:** Ministry of Textiles will provide **financial assistance up to ₹800 crore per park for Greenfield projects** and **up to ₹500 crore per park for Brownfield projects** in the form of


7 PM MITRA Parks
Greenfield
Uttar Pradesh
(Lucknow)
Gujarat
(Navsari)
Greenfield
Madhya Pradesh
(Dhar)
Greenfield
Maharashtra
(Amravati)
Brownfield
Telangana (Warangal)
Brownfield
Karnataka
(Kalaburagi)
Greenfield
Tamil Nadu
Virudhunagar
Greenfield

Conclusion

The PM MITRA Scheme seeks to transform India's textile sector into a globally competitive hub by integrating the entire value chain, reducing logistics costs, and upgrading technology. With strong PPP support, fiscal incentives, and job potential, it can boost investment, strengthen exports, and promote sustainable, inclusive growth, advancing the 5F vision.

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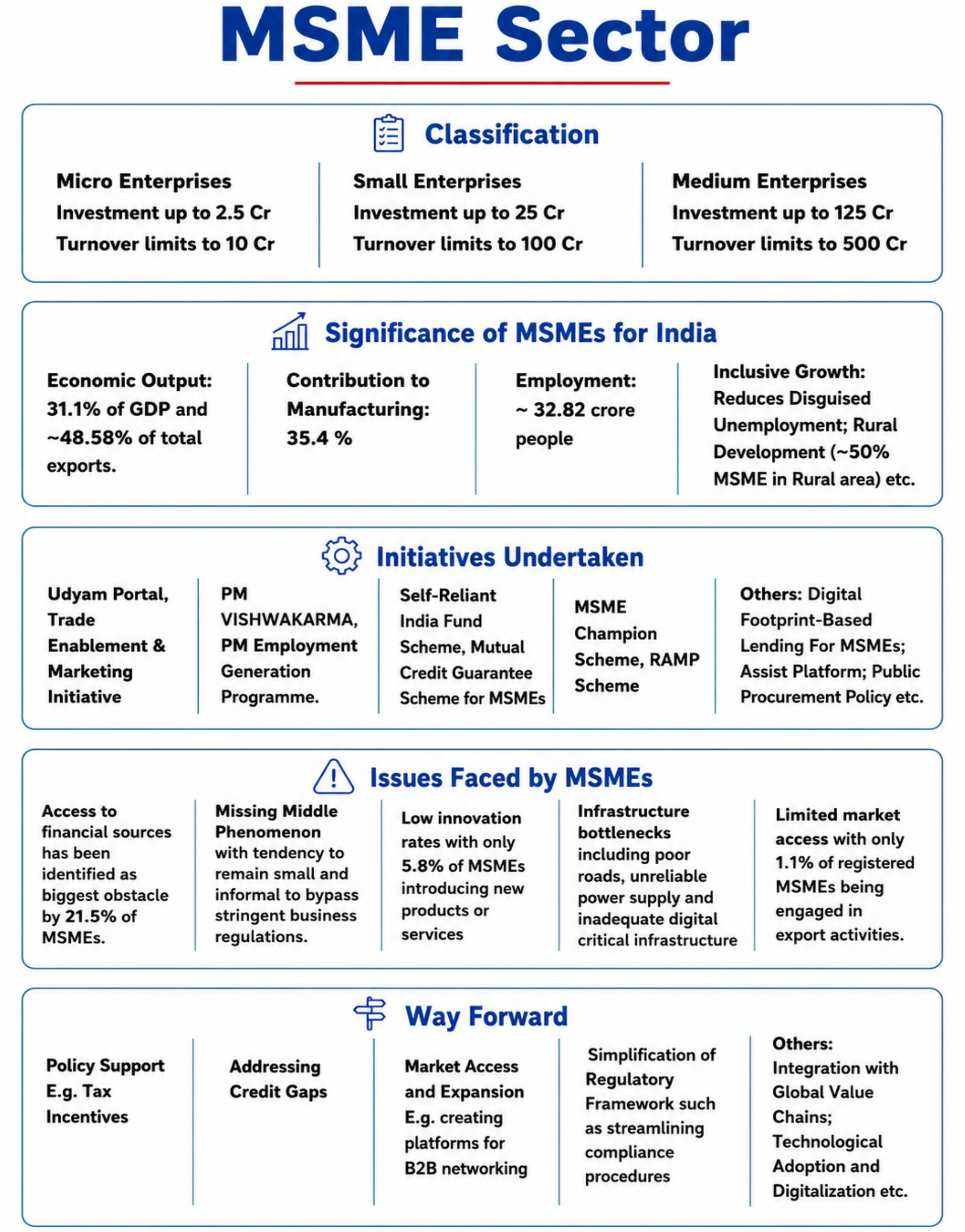
AHMEDABAD: 15 JUNE | BENGALURU: 18 JUNE | BHOPAL: 2 JUNE | HYDERABAD: 10 JUNE
JAIPUR: 17 JUNE, 22 JUNE | JODHPUR: 15 MAY | LUCKNOW: 10 JUNE | PUNE: 9 JUNE, 29 JUNE

7.3. MICRO, SMALL, AND MEDIUM ENTERPRISES (MSMES) AT A GLANCE



MSME Sector

Classification

Micro Enterprises
Investment up to 2.5 Cr
Turnover limits to 10 Cr

Small Enterprises
Investment up to 25 Cr
Turnover limits to 100 Cr

Medium Enterprises
Investment up to 125 Cr
Turnover limits to 500 Cr

Significance of MSMEs for India

- **Economic Output:** 31.1% of GDP and ~48.58% of total exports.
- **Contribution to Manufacturing:** 35.4 %
- **Employment:** ~ 32.82 crore people
- **Inclusive Growth:** Reduces Disguised Unemployment; Rural Development (~50% MSME in Rural area) etc.

Initiatives Undertaken

- Udyam Portal, Trade Enablement & Marketing Initiative
- PM VISHWAKARMA, PM Employment Generation Programme.
- Self-Reliant India Fund Scheme, Mutual Credit Guarantee Scheme for MSMEs
- MSME Champion Scheme, RAMP Scheme
- **Others:** Digital Footprint-Based Lending For MSMEs; Assist Platform; Public Procurement Policy etc.

Issues Faced by MSMEs

- Access to financial sources has been identified as biggest obstacle by 21.5% of MSMEs.
- Missing Middle Phenomenon with tendency to remain small and informal to bypass stringent business regulations.
- Low innovation rates with only 5.8% of MSMEs introducing new products or services
- Infrastructure bottlenecks including poor roads, unreliable power supply and inadequate digital critical infrastructure
- Limited market access with only 1.1% of registered MSMEs being engaged in export activities.

Way Forward

- Policy Support E.g. Tax Incentives
- Addressing Credit Gaps
- Market Access and Expansion E.g. creating platforms for B2B networking
- Simplification of Regulatory Framework such as streamlining compliance procedures
- Others: Integration with Global Value Chains; Technological Adoption and Digitalization etc.

7.4. SEMICONDUCTOR

Why in the News?

The Prime Minister inaugurated India's First Semiconductor Assembly, Test, Marking, and Packaging (ATMP) facility in Sanand, Gujarat.

Status of Semiconductor Ecosystem in India

- India's semiconductor market is valued at **$52 billion in 2024-25** and the market is set to hit **$100–110 Bn by 2030**.
- India currently meets **only ~10% of its semiconductor demand domestically.**
- **Key Growth drivers:** Electronics manufacturing (e.g., India is the second-largest smartphone manufacturer in the world), rising demand for electric vehicles, etc.

Need for Building Indigenous Capacity in Semiconductor Manufacturing

- **Reducing dependence on Imports:** India imported $1 billion worth of semiconductors annually for defence needs (2024).
- **Vulnerability of Concentrated Supply Chains: Taiwan** alone accounts for over 60% (remaining South Korea, Japan, China, and the United States) of global semiconductor manufacturing and nearly 90% of the most advanced chips.
- **Export Potential:** Boosts electronics manufacturing and attracts FDI, helping India capture a substantial share of the $1 trillion semiconductor market by 2030.
  - Also, it will **create high-value manufacturing jobs** and **stimulate upstream and downstream sectors**, including equipment, materials, and tools.

Key Initiatives taken to Support Semiconductor Ecosystem

- **India Semiconductor Mission (ISM) & Semicon India**: ISM is the nodal agency driving the country's long-term semiconductor sector. In the Union Budget 2026–27, ISM 2.0 has been announced. **ISM** includes four primary schemes:
  - **Semiconductor Fabs Scheme**
  - **Display Fabs Scheme**
  - **Compound Semiconductors & ATMP/Outsourced Semiconductor Assembly and Test (OSAT) Scheme**
  - **Design Linked Incentive (DLI) Scheme**
- **Talent and Skill Development:** It includes **Chips to Start-up (C2S) Programme**, AICTE Curriculum Updates (introduced specialised engineering programs), etc.
- **Indigenous Microprocessors and Core Technologies: Microprocessor Development Programme (MDP)** and the **Digital India RISC-V (DIR-V) Programme** have led to the creation of native open-source processors like SHAKTI, VIKRAM, etc.
  - A major milestone is the recent launch of **DHRUV64**, a fully indigenous 64-bit microprocessor developed by C-DAC for applications in 5G, IoT, and industrial automation.
- **Global Collaboration**: E.g., India- U.S. Initiative on **Critical and Emerging Technology (iCET)**, U.S.-led Pax Silica Initiative, etc.
- **Other:** Scheme for Promotion of Manufacturing of Electronic Components and Semiconductors (SPECS), Electronics Components and Manufacturing Scheme (ECMS), etc.

Challenges in Semiconductor ecosystem

- **Limited Core IP and Indigenous Product Development:** Indigenous research and innovation remain weak, with few original patents in advanced chip technologies, AI chips, or quantum computing.
- **Geopolitical Risks:** E.g., Export controls by major powers (especially the US) may limit India's access to critical technologies and chipmaking equipment.

- **Low focus on advanced fab facilities:** Most Indian fabs/facilities target mature technology nodes (>28nm), while global market is shifting towards 3nm, 5nm, and specialized chips for AI and quantum computing.
- **Other issues:**
    - **Fragmented Collaboration and Ecosystem Creation** between manufacturers, design houses, fabs, research unit
    - **Shortage of specialized manufacturing talent.**
    - **Slow project execution and delays in regulatory approvals.**
    - **Inadequate logistics and transport infrastructure**.
    - **Environmental concerns** as Semiconductor fabs consume huge water and energy.

Way Forward

- **Institution-Building:** Emulating the success of Taiwan's Industrial Technology Research Institute (ITRI), India needs a dedicated institution like the proposed India Semiconductor Research Centre (ISRC).
- **Building a Massive Talent Pipeline:** Integrating harmonized semiconductor programs into mainstream engineering, such as the AICTE's new curricula for Integrated Circuit (IC) manufacturing.
    - Update academic **curricula with practical semiconductor training; set up dedicated training centers including refurbished fabs** for hands-on experience.
- **Scaling Startups and Indigenous R&D:** Increase **public and private funding** for **semiconductor R&D**; strengthen IP registration and enforcement for an **indigenous IP base** etc.
- **Transitioning to Next-Generation Materials:** The industry must also support the shift from traditional **silicon** to **Silicon Carbide (SiC) semiconductors** and **3D Glass packaging**.
    - These are essential for high-temperature and high-voltage applications like defence.
- **Improving Policy and Infrastructure:** Establish an **initial refurbished fab for training and fabrication access;** incentivize **private investments with tax breaks** and infrastructure support etc.
- **Forging Strategic Global Partnerships:** Actively engaging in global collaborations and hosting platforms like **SEMICON India**, and integrating India into the supply chains of established semiconductor nations like the US, Japan, etc.

Conclusion

India's semiconductor push marks a decisive shift from import dependence to technological self-reliance, strengthening economic and strategic security. With sustained policy support, investments, and global partnerships, India is poised to emerge as a key player in the global semiconductor value chain.

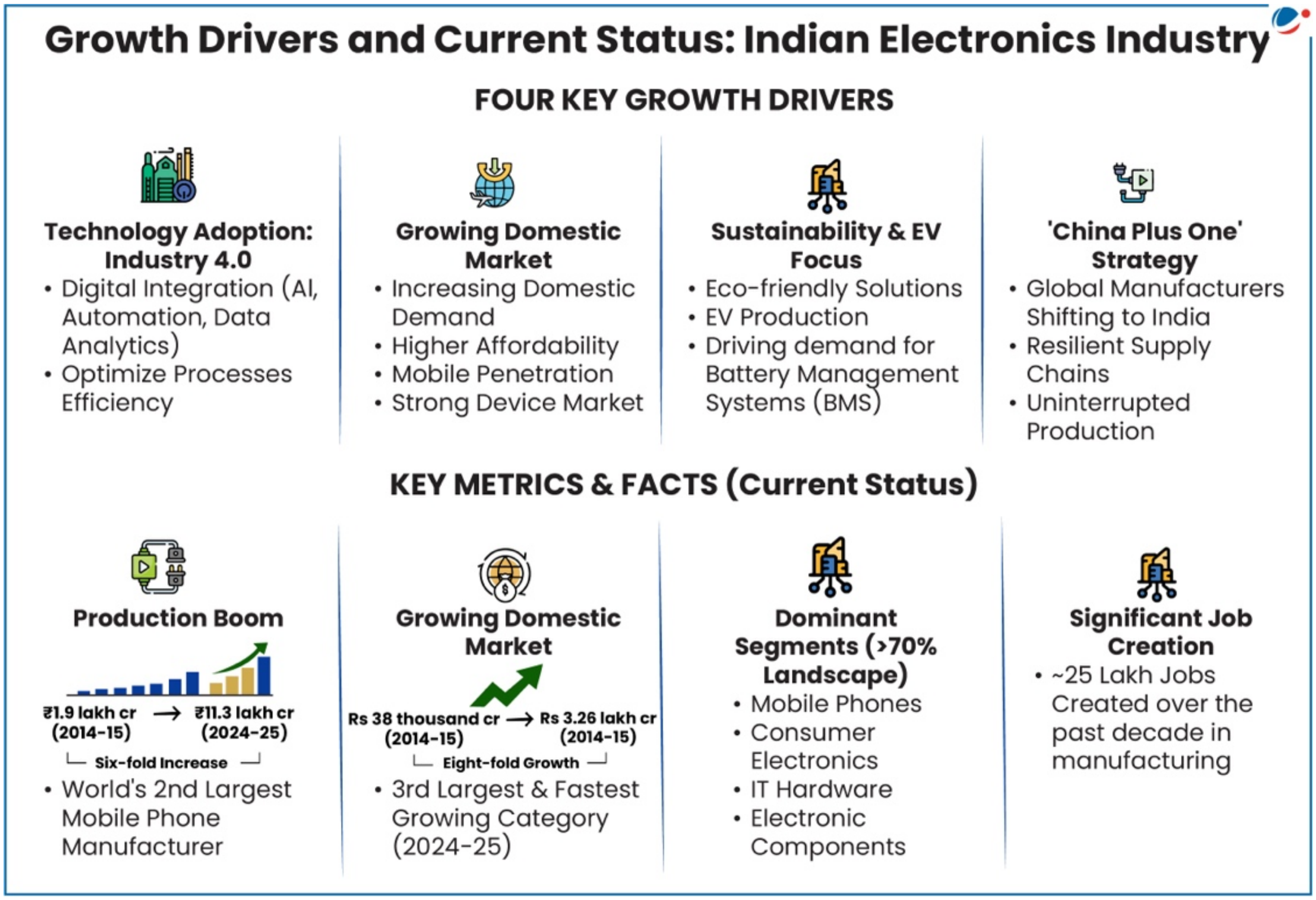
7.4.1. ELECTRONICS COMPONENTS MANUFACTURING SCHEME

Why in the News?

The Union Budget 2026–27 has announced an increase in the outlay for the Electronics Components Manufacturing Scheme (ECMS) to ₹40,000 crore.

About ECMS

- **Aim:** To create a **self-sustaining ecosystem for domestic component manufacturing** and **integrating India's electronic industry with global value chains** by encouraging production of essential components, sub-assemblies, and raw materials within the country.
- **Ministry:** Ministry of Electronics and Information Technology (MeitY).
- **Incentives:** Scheme provides differentiated fiscal incentive on target segment products in terms of turnover:
    - Turnover linked incentive (for 6 years, with one year optional gestation period) for display module, camera module, multilayer printed circuit board, etc.
    - Capex incentive for 5 years.
    - Hybrid incentive
- **Targeted Components:** Include display modules, sub-assembly camera modules, printed circuit board assemblies, lithium cell enclosures etc.



Growth Drivers and Current Status: Indian Electronics Industry

FOUR KEY GROWTH DRIVERS

Technology Adoption: Industry 4.0
- Digital Integration (AI, Automation, Data Analytics)
- Optimize Processes Efficiency

Growing Domestic Market
- Increasing Domestic Demand
- Higher Affordability
- Mobile Penetration
- Strong Device Market

Sustainability & EV Focus
- Eco-friendly Solutions
- EV Production
- Driving demand for Battery Management Systems (BMS)

'China Plus One' Strategy
- Global Manufacturers Shifting to India
- Resilient Supply Chains
- Uninterrupted Production

KEY METRICS & FACTS (Current Status)

Production Boom

₹1.9 lakh cr (2014-15) → ₹11.3 lakh cr (2024-25)

Six-fold Increase

- World's 2nd Largest Mobile Phone Manufacturer

Growing Domestic Market

Rs 38 thousand cr (2014-15) → Rs 3.26 lakh cr (2014-15)

Eight-fold Growth

- 3rd Largest & Fastest Growing Category (2024-25)

Dominant Segments (>70% Landscape)
- Mobile Phones
- Consumer Electronics
- IT Hardware
- Electronic Components

Significant Job Creation
- ~25 Lakh Jobs Created over the past decade in manufacturing

Challenges to Electronics Industry

- **Heavy Import Dependency:** India remains a "net importer" for core components such as semiconductor devices, PCBs, integrated circuits etc. from China, South Korea and Vietnam etc.
    - **Impact:** Increases the trade deficit and creates **Supply Chain Vulnerabilities** (e.g., disruptions during geopolitical tensions).
- **The Cost-Competitiveness Gap:** Manufacturing in India is **10–20% more expensive** than in China, Vietnam, or Mexico due to high import duties on inputs, expensive raw materials, high logistics costs and limited economies of scale.
- **Indigenous R&D Deficit:** India's electronics sector is largely **assembly-oriented** rather than design-oriented.
    - A weak R&D infrastructure limits the domestic design of high-value advanced components.
- **The E-Waste Crisis:** Global e-waste is set to hit 82 million metric tons by 2030; India's share is expected to surge to **5 million metric tons** while it lacks formal recycling infrastructure and e-waste pose environmental hazards.

Conclusion

With a strategic focus on reducing import dependency, lowering production costs, and fostering innovation, India is well-positioned to build a competitive and sustainable ecosystem. As India moves towards a USD 300 billion electronics production target by 2026, its robust policies and skilled workforce are paving the way for sustained growth, positioning the nation as a key player in the global electronics and semiconductor industry.

7.5. INSOLVENCY AND BANKRUPTCY CODE (IBC)

Why in the News?

The **Parliamentary Standing Committee on Finance** recently tabled its **Report** titled **"Review of Working of Insolvency and Bankruptcy Code (IBC) and Emerging Issues".**

About the Insolvency and Bankruptcy Code, 2016 (IBC)

- The IBC is an **umbrella legislation** consolidating Indian laws relating to the reorganization and insolvency resolution of corporate persons, partnership firms, and individuals.
- It represents a **paradigm shift** from a **debtor-in-possession** to a **creditor-in-control** model.
- **Applicability:** The Code applies to companies incorporated under the **Companies Act**, **Limited Liability Partnerships (LLPs), personal guarantors to corporate debtors, partnership firms, and individuals.**
- **Four Pillars of IBC Code:Insolvency and Bankruptcy Board of India (IBBI), Insolvency Professionals (IPs), Information Utilities (IUs), Adjudicating Authority (AA).**
- **Corporate Insolvency Resolution Process (CIRP)**
    - **Initiation:** Financial Creditors, Operational Creditors, or the **CD** itself may apply to the **AA** upon a default of **at least one crore rupees.**
    - **Timelines:** The **CIRP** must be completed **within 180 days, extendable to a maximum of 330 days including legal proceedings.**

Successes and Behavioral changes due to IBC

- **Post-Resolution Revival:** Resolved firms demonstrated significant operational and financial turnarounds, with average sales increasing by 76% in the three years following resolution and total assets growing by approximately 50%.
- **Improved Credit Culture:** Substantial reduction in the average number of days loan accounts remain "Overdue," dropping from a range of 248–344 days to 30–87 days post-IBC.
- **Debt Settlement outside the Code:** The IBC's deterrent effect has led to the settlement of significant debt before formal admission.
- **Liquidity Improvement:** Liquidity improved by about 80% in the post resolution period.

Key Issues Identified by the Committee include:

- **Low Recovery Rates and Asset Valuation**
    - **Excessive Haircuts:** While **creditors realise approximately 170%** of the liquidation value**, the overall recovery** against total admitted claims is **only 32.8%.**
    - **Timing of Admission:** Firms often enter the IBC process when their **assets are already heavily stressed or eroded,** leading to lower realisations.
    - **Valuation Inconsistency:** There is a **lack of transparency and uniform standards in asset valuation.**
- **Statutory Overlaps and Legal Conflicts**
    - **Conflict with PMLA:** The Enforcement Directorate's **authority** to attach assets **under** the Prevention of Money Laundering Act **(PMLA) often conflicts with the IBC's "clean slate" principle, deterring potential bidders.**
    - **Government Dues:** There is ongoing **ambiguity** regarding the status of government and statutory dues in the **"waterfall mechanism"** (the order of priority for payments), particularly following conflicting judicial pronouncements.

- **Delays & Backlogs**: CIRP takes **713 days** on average vs the **330-day limit**, Frequent appeals and frivolous litigation delay resolution.
- **MSME Related Issues:** PPIRP has low uptake (only **14 cases** by March 2025). There is a misuse of MSME registration to gain concessions.
- **Governance Concerns: Concerns exist regarding** excessive powers and possible conflicts of interest of **Resolution Professionals (RPs).** Also, there is no enforceable Code of Conduct for the Committee of Creditors (CoC).
- **Cross-Border Insolvency:** India currently lacks a robust framework for handling insolvency where assets are spread across multiple international jurisdictions.
- **Implementation Gaps**
    - **Insolvency and Bankruptcy Fund:** Although provided for in the original Code, this fund remains unoperationalised, which could otherwise support resource-strapped proceedings or capacity building.
    - **Technological Deficit:** The committee noted that while e-courts exist, **there is a lack of technological fluency among some judges and a need for a dedicated cadre of IT professionals to support the NCLT.**

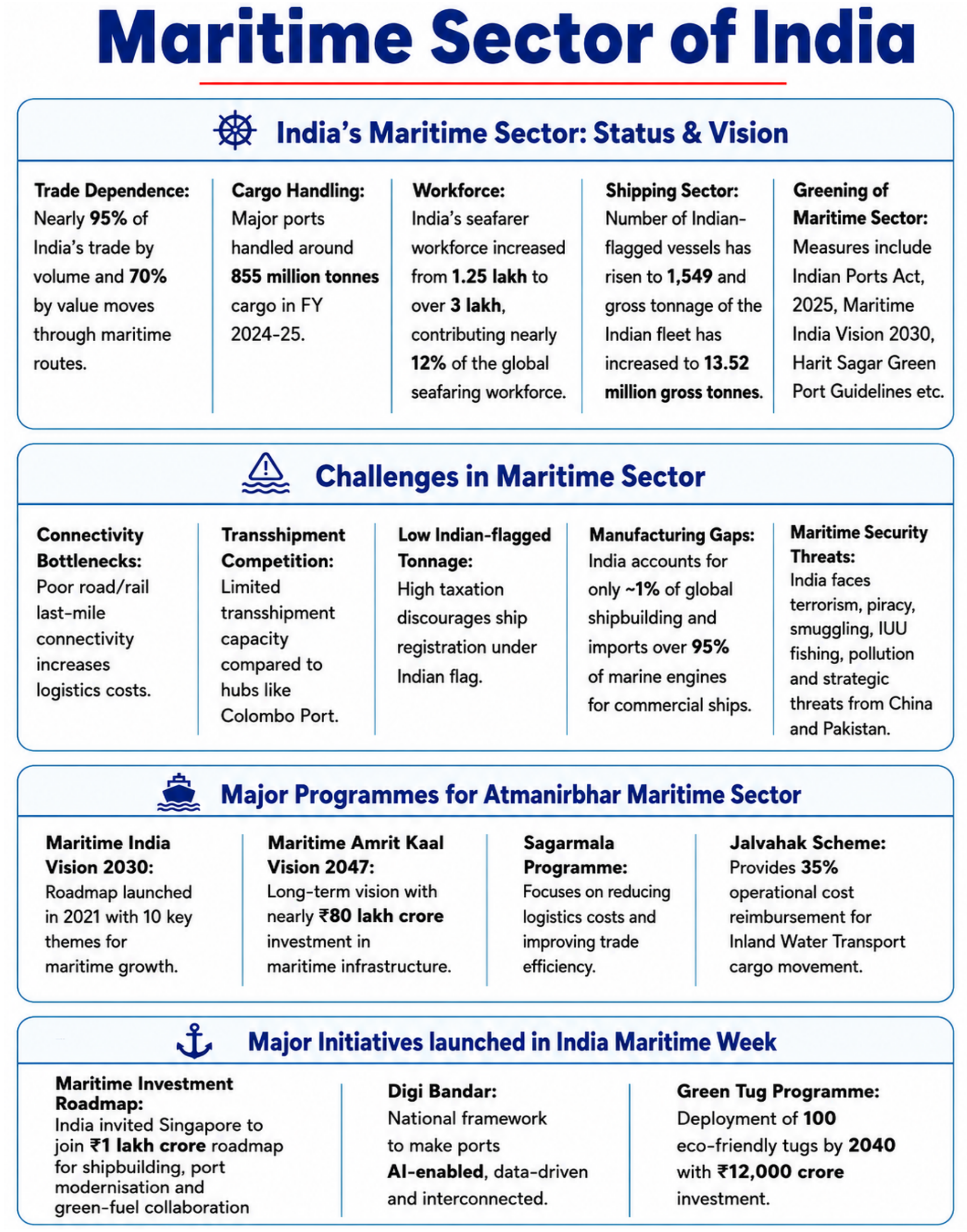
Key Recommendations by Report

- **Strengthening Judicial and Institutional Capacity:** Expansion of NCLT/NCLAT Benches to clear backlog.
- **Reducing Delays & Frivolous Litigation: Deterring Frivolous Litigation** by imposing **mandatory deposits** for unsuccessful bidders filing appeals.
- **Improving Recovery Rates & Asset Valuation:** Shift from **liquidation value** to **enterprise value** to better reflect a company's potential and reduce the "**haircuts**" taken by creditors.
    - Encourage **global competitive bidding** & Strengthen oversight of valuers with **SOPs and audits**.
- **Enhancing Accountability:** Introduce **RP monitoring mechanisms** and specialised training. Empower the **CoC** in RP appointment/removal. Enable **time-bound forensic audits** with inter-agency coordination.
- **Stakeholder Reforms:** Simplify **PPIRP for MSMEs** and review the **waterfall mechanism** for fairer distribution.
    - A **transparent** online mechanism should be established for issuing **"no dues"** certificates and statutory clearances immediately upon completion of a resolution plan.
- **Cross-Border Insolvency:** The committee recommends the selective adoption of the **UNCITRAL Model Law on Cross-Border Insolvency**, with modifications suited to India's financial and legal framework.
- **Technological Integration:** The Ministry of Corporate Affairs should accelerate the Integrated Technology Platform (**iPIE)** for centralised case management and train judges to improve technological fluency.

Conclusion

The committee's recommendations represent a significant shift towards viewing insolvency and liquidation as a **seamless continuum**. While the IBC improved **GNPA ratios**, it must evolve from a **liquidation tool** into a **rescue mechanism**. Restoring its **time-bound mandate** requires strengthening **judicial infrastructure**, closing loopholes, and enforcing **stakeholder discipline** to prioritize business revival over terminal liquidation.

7.6. MARITIME SECTOR OF INDIA AT A GLANCE



Maritime Sector of India

India's Maritime Sector: Status & Vision

- **Trade Dependence:** Nearly **95%** of India's trade by volume and **70%** by value moves through maritime routes.
- **Cargo Handling:** Major ports handled around **855 million tonnes** cargo in FY 2024-25.
- **Workforce:** India's seafarer workforce increased from **1.25 lakh** to over **3 lakh**, contributing nearly **12%** of the global seafaring workforce.
- **Shipping Sector:** Number of Indian-flagged vessels has risen to **1,549** and gross tonnage of the Indian fleet has increased to **13.52 million gross tonnes.**
- **Greening of Maritime Sector:** Measures include Indian Ports Act, 2025, Maritime India Vision 2030, Harit Sagar Green Port Guidelines etc.

Challenges in Maritime Sector

- **Connectivity Bottlenecks:** Poor road/rail last-mile connectivity increases logistics costs.
- **Transshipment Competition:** Limited transshipment capacity compared to hubs like Colombo Port.
- **Low Indian-flagged Tonnage:** High taxation discourages ship registration under Indian flag.
- **Manufacturing Gaps:** India accounts for only **~1%** of global shipbuilding and imports over **95%** of marine engines for commercial ships.
- **Maritime Security Threats:** India faces terrorism, piracy, smuggling, IUU fishing, pollution and strategic threats from China and Pakistan.

Major Programmes for Atmanirbhar Maritime Sector

- **Maritime India Vision 2030:** Roadmap launched in 2021 with 10 key themes for maritime growth.
- **Maritime Amrit Kaal Vision 2047:** Long-term vision with nearly **₹80 lakh crore** investment in maritime infrastructure.
- **Sagarmala Programme:** Focuses on reducing logistics costs and improving trade efficiency.
- **Jalvahak Scheme:** Provides **35%** operational cost reimbursement for Inland Water Transport cargo movement.

Major Initiatives launched in India Maritime Week

- **Maritime Investment Roadmap:** India invited Singapore to join **₹1 lakh crore** roadmap for shipbuilding, port modernisation and green-fuel collaboration
- **Digi Bandar:** National framework to make ports **AI-enabled**, data-driven and interconnected.
- **Green Tug Programme:** Deployment of **100** eco-friendly tugs by **2040** with **₹12,000 crore** investment.

7.6.1. INDIAN PORTS ACT, 2025

Why in the News?

The President of India has given her assent to the Indian Ports Act, 2025 which replaces the Indian Ports Act, 1908.

Key features of the Act

- **Statutory recognition to Maritime State Development Council (MSDC):** It is established by the Central Government to make recommendations on the legal framework, port sector growth, competition, efficiency, and port connectivity.
- **Statutory recognition to State Maritime Boards (SMB):** SMB administer non-major ports within their respective states.
- **Adjudicatory Mechanisms:** Each State Government must constitute a **Dispute Resolution Committee** to adjudicate disputes between ports (other than major ports).
- **Port Tariff and Charges:** For **major ports**, tariffs are fixed by the **Board of Major Port Authority or board of directors (if a company).**
    - For ports other than **major ports**, the respective **SMB or authorized concessionaires** fix the tariffs.
- **Mega Ports:** Central Government, in consultation with State Governments, can notify criteria for classifying ports as "mega ports."
- **Emergency preparedness and response plan**: For safety, security, disaster management, and pollution incidents, subject to Central Government approval and audit.
- **Environmental and Pollution Control:** Mandates compliance with **International Convention for the Prevention of Pollution from Ships (MARPOL) Convention** and **Ballast Water Management (BWM) Convention**.

Conclusion

The Indian Ports Act, 2025 is a landmark reform aiming to modernise port governance, promote efficiency, and align India with global maritime standards. However, concerns over need for classification of mega ports and absence of appeal against penalties levied by the conservator must be addressed. With proper checks, the Act can drive India's ambition of emerging as a top maritime nation by 2047.

MARPOL and BWM Convention

- **MARPOL** is the main international convention covering **prevention of pollution of the marine environment by ships** from operational or accidental causes.
    - **India is a signatory to this Convention.**
- **BWM convention** is a treaty to help prevent the **spread of potentially harmful aquatic organisms** and pathogens **in ships' ballast water**.
    - India is not a party to the Convention.
- Both treaties are adopted by **International Maritime Organisation (IMO).**

7.6.2. 10 YEARS OF SAGARMALA PROGRAMME

Why in the News?

Sagarmala Programme has achieved 118% growth in coastal shipping over the last decade, reducing logistics costs and emissions.

About Sagarmala Programme

- **Ministry:** Launched in 2015 by Ministry of Ports, Shipping, and Waterways (MoPSW).
- **Aim:** To accelerate economic development in the country by harnessing the potential of India's **11,098 km long coastline** and **14,500 km of potentially navigable waterways**.
- **Funding Structure: Public-Private Partnership**, **Internal & Extra Budgetary Resources** by MoPSW, **Grant-in-Aid** for projects with **high social impact and Equity** through Special Purpose Vehicles (SPVs).
- **Sagarmala 2.0:** Launched in 2025 with Focus Areas including Shipbuilding, repair, breaking, and recycling and port modernization.

5 Components of SAGARMALA Programme

- **Port Modernization & New Port Development:** Upgrade existing ports and build new Green-field ports.
- **Port Connectivity Enhancement:** Strengthen road, rail, waterways, and pipeline links for smooth cargo flow.
- **Port-Linked Industrialization:** Develop Coastal Economic Zones and industrial clusters near ports.
- **Coastal Community Development:** Boost skills, jobs, tourism, fisheries, and local livelihoods.
- **Coastal Shipping & Inland Waterways Promotion:** Promote cargo/passenger movement via coastal shipping and inland waterways.

- **Institutional Framework for Implementing Sagarmala Programme:** National Sagarmala Apex Committee (NSAC) chaired by Minister of Shipping, acts as apex body for policy direction and oversight of the Programme.

Key achievements of Sagarmala Programme

- **Coastal Community Development:** Projects worth ₹5.79 lakh crores identified, with ₹1.41 lakh crore worth of projects completed.
- **Boost to waterways:** 700% surge in inland waterway cargo movement, easing congestion on roads and railways.
- **Improved connectivity: 40 lakh+** passengers benefited from **Ro-Pax ferries,** enhancing coastal connectivity.
- **Port development:** 9 Indian ports are among **the world's top 100,** with Vizag in top 20 container ports globally.
- **Average Port Turnaround Time:** Approx. 2 days (Significant improvement from average of 4 days in 2014-15).

Conclusion

Sagarmala 2.0 will position India as a hub for maritime innovation and sustainability thereby steering towards a globally competitive maritime ecosystem that fuels economic growth, job creation, and **Blue Economy**.

7.6.3. SHIPBUILDING INDUSTRY

Why in News?

The Ministry of Ports, Shipping & Waterways (MoPSW) recently notified operational guidelines for two flagship schemes Shipbuilding Financial Assistance Scheme (SBFAS) and Shipbuilding Development Scheme (SbDS).

More on the News

- These guidelines set a roadmap to increase India's commercial shipbuilding capacity to **4.5 million Gross Tonnage (GT) per annum by the year 2047.**

About the Operational Guidelines

- **Shipbuilding Financial Assistance Scheme (SBFAS)**
  - **Tiered Financial Assistance:** 15%-25% assistance of the vessel cost, depending upon the category.
  - **National Shipbuilding Mission (NSM):** To oversee coordinated planning, demand aggregation, and synchronized execution of shipbuilding across the country.
  - **Shipbreaking Credit Note:** Where shipowners scrapping vessels at Indian yards receive a credit note worth 40% of the scrap value.
- **Shipbuilding Development Scheme (SbDS)**
  - **Greenfield Infrastructure Development:** Offers 100% capital support for common maritime and internal infrastructure in new clusters.

  - **Research & Skill Development:** Establishes the Indian Ship Technology Centre (ISTC) under the Indian Maritime University (IMU).
  - **Credit Risk Coverage Framework:** Provides government-supported insurance to mitigate financial risks.

Shipbuilding Sector in India

- **Global Standing:** India currently holds less than 1% of the global shipbuilding market share, significantly trailing leaders like China (47%), South Korea (25%), and Japan (18%).
- **Current Capacity:** India's annual output is approximately 0.072 million Gross Tonnage (GT), with a target to reach 0.33 million GT by 2030 and 4.5 million GT by 2047.
- **Fleet Age:** The average age of the Indian-flagged fleet is 21 years, creating an immediate domestic demand for nearly 2,500 new vessels for fleet replacement**.**
- **Market Growth:** The Indian sector was valued at US$ 90 million in 2022 and is projected to reach US$ 8.12 billion by 2033, growing at a CAGR of 60%.

Challenges and Structural Bottlenecks

- **High Capital Costs:** Indian shipyards face borrowing costs of 9–11%, compared to 4–6% in China and South Korea, leading to a 20% cost disadvantage.
- **Fragmented Ecosystem:** Lack of integrated clusters means shipyards are far from component suppliers, increasing logistics costs and timelines.
- **Import Dependency:** India still imports 60–70% of critical marine components, including specialized steel, propulsion engines, and navigation electronics.
- **Infrastructure Limits:** Most Indian dry docks are smaller than 310m, making it impossible to build or repair Ultra Large Crude Carriers (ULCC).
- **Market Preference:** Indian ship-owners often prefer buying second-hand foreign vessels due to lower costs and immediate availability.
- **Underdeveloped MRO (Repair):** Most Indian-flagged vessels prefer undergoing maintenance in Singapore, Dubai, or Colombo due to superior infrastructure and quicker turnaround.

Way Forward

- **Transition to Commercial Hub:** Leveraging the expertise gained in defense projects to capture a larger share of the global commercial export market.
- **Circular Economy:** Scaling the Shipbreaking Credit Note to link the recycling industry with new construction, making India a global hub for sustainable ship lifecycle management.
- **Innovation:** Investing in autonomous shipping and alternative fuels (Ammonia/Hydrogen) to leapfrog established players in the niche green-shipping segment.

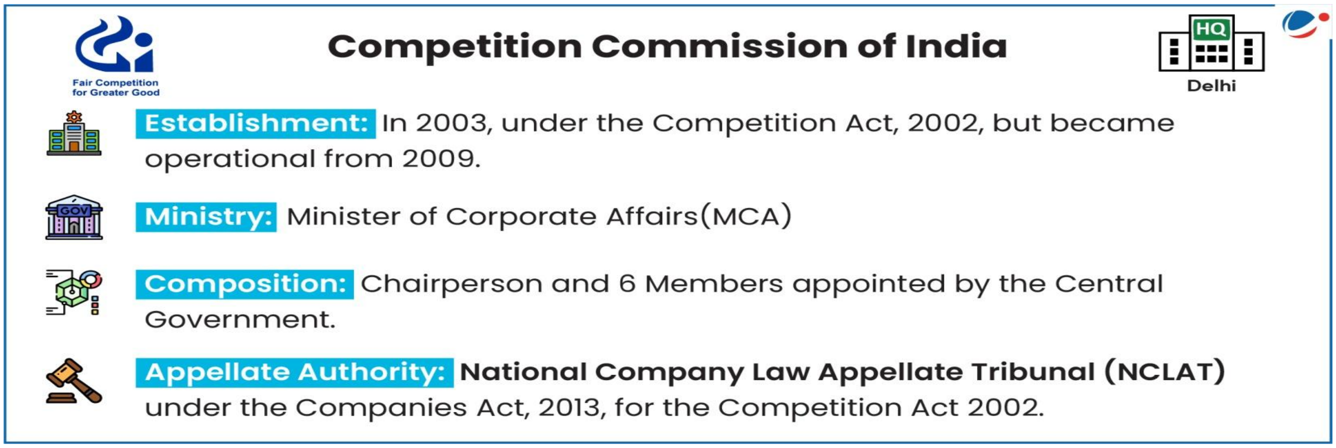
Conclusion

India's shipbuilding sector offers significant growth and security potential but is hampered by high costs, poor infrastructure, and import dependency. While recent financial and infrastructure reforms are beneficial, the industry requires more robust policy interventions and domestic manufacturing incentives.

7.7. COMPETITION COMMISSION OF INDIA

Why in the News?

Recently**, the Standing Committee on Finance** tabled a report titled **Evolving Role of Competition Commission of India in the Economy, particularly the Digital Landscape**, before parliament.



Competition Commission of India

Fair Competition for Greater Good

HQ Delhi

Establishment: In 2003, under the Competition Act, 2002, but became operational from 2009.

Ministry: Minister of Corporate Affairs(MCA)

Composition: Chairperson and 6 Members appointed by the Central Government.

Appellate Authority: **National Company Law Appellate Tribunal (NCLAT)** under the Companies Act, 2013, for the Competition Act 2002.

Role of CCI

- **Eliminate practices having adverse effect on competition**: E.g., **in the Umar Javeed vs. Google case**, the CCI directed Google not to restrict app developers from distributing apps via side-loading.
    - **Protect the interests of consumers: E.g.,** CCI fined Meta for abusing dominance by sharing WhatsApp's user data with other Meta companies.
    - **Advise the government on competition issues: E.g., the competition assessment toolkit** by CCI to help govt. analyse laws and regulations to identify aspects that restrict competition.
- **Inquire, investigate, pass orders and impose penalty on anti-competitive practices:** E.g., in the Google search bias case, it imposed a Rs 135 crore penalty.
    - **Regulate Mergers: E.g.,** it approved the Walmart-Flipkart merger after evaluating concerns such as predatory pricing, deep discounting, impact on offline retailers, etc
- **Adapting to evolving challenges: E.g., Digital Markets Division (DMD)** was constituted by **CCI** to cope up with challenges posed by digitization to fair competition.

Evolving Challenges before CCI

- **Digitization**: it has introduced efficiencies but, has also posted significant **challenges** e.g.,
    - **Tech firms as gatekeepers** controlling access between consumers and businesses.
        - **E.g., xAI filed case against Apple's** exclusive integration of ChatGPT into iOS.
    - **Network effects:** E.g., WhatsApp's **'take-it-or-leave-it'** policy of 2021, compelling all users to accept data collection terms to leverage networking effect, was fined by CCI
    - **Data Advantage:** Big tech platforms' ability to control vast amounts of user data undermines the ability of smaller firms to compete
        - The **European Union regulators** accused **Amazon** of misusing data from 3^{rd} party sellers on its platform to gain an unfair advantage in retail.
    - **Ecosystem dominance**: E.g., **Apple's ecosystem** - Apple Pay, Safari browser, iCloud, Apple Music.
    - **Other Challenges:** Self-Preferencing (platforms prioritise their own products), Predatory Pricing and Deep Discounting, Tying and bundling, etc.
- **Lack of a comprehensive policy framework:** National Competition Policy was prepared in 2011, but is yet to be enforced.
- **Digital Competition Bill (DCB) Concerns:** Broad thresholds, absence of a rebuttal mechanism, and potential overlap with the **Digital Personal Data Protection Act (DPDP Act).**
- **Cross-Jurisdictional Issues:** Cross-border digital markets and players require the CCI to collaborate with global regulators.
- **Resource and Capacity Gaps**: CCI faces significant **human resource vacancies** (only 113 out of 195 sanctioned posts filled) and, lack of specialized technical expertise (e.g., AI).
- **Enforcement Effectiveness:** CCI-imposed penalties (Rs. 18,512.28 crore out of Rs. 20,350.46 crore) are stayed or dismissed by appellate courts.

- **Threats to MSMEs:** A ₹2,000 crore deal value threshold (**DVT)** allows large corporations to acquire MSMEs without regulatory scrutiny.

Recent Initiatives to streamline competition

- **Competition (Amendment) Act, 2023**
  - **Deal value threshold (DVT):** To regulate Merger & Acquisition (M&As) particularly in the digital markets
    - All M&A transactions with deal value exceeding Rs. 2000 crore are to be notified to the CCI.
  - **Settlement and Commitment Mechanisms:** Empowers CCI to accept voluntary commitments from parties in certain anti-competitive cases.
  - **Proportional Penalties**: To file an appeal against a CCI order, a mandatory deposit of 25% of the imposed penalty is now required.
- **Digital Personal Data Protection Act, 2023:** Establishes a legal framework for safeguarding personal data and regulating data-driven practices of digital firms.

Way Forward (Recommendations of the Committee)

- **Digital Competition Regulation:** Use **market studies (AI, etc.)**. **Implementation of the National Competition Policy**, etc.
- **Learning from the best practices:** Such as **Digital Markets Act of the European Union** which is an ex-ante competition framework, ensures that gatekeeper behave fairly online.
- **A lower DVT for MSMEs:** It could be considered for acquisitions involving MSMEs and proactive investigations by CCI into predatory pricing by dominant online platforms
  - Ensure **data access for MSMEs** to compete with big digital firms.
- **Institutional Capacity and Resource Gaps:** Sanctioned strength of CCI must be increased, Invest in continuous training & international collaboration, etc.
- **Refining Digital Competition Bill:** To address certain concerns like its broad threshold.

Conclusion

As India's digital economy expands, the Competition Commission of India must evolve to address emerging challenges posed by data-driven markets and dominant digital platforms. Strengthening regulatory capacity, refining competition laws, and ensuring a level playing field for startups and MSMEs will be crucial for fostering innovation, consumer welfare, and fair competition.

7.7.1. DUOPOLIES DOMINATING INDIAN MARKET

Why in the News?

The recent Indigo fiasco in the aviation sector highlighted the issues and concerns faced due to duopoly in delivery of commodities and services.

What is Duopoly?

- It refers to a scenario in which **two suppliers dominate the market for a commodity or service**.
- A duopoly sits precariously between competition and monopoly — "too few to compete vigorously, too many to collude openly".
- In India, markets with just two suppliers in operation are becoming more common. E.g., **Duopoly of Ola and Uber in cab services, Swiggy and Zomato in food delivery**.
- **Reason for Rise of Duopoly**
  - **High capital requirements:** Makes entry and survival difficult for smaller firms. **E.g., Aviation sector.**
  - **Network effects:** Big firms spend early on to acquire customers, squeezing out competitors. **E.g., Telecom sector**
  - **Regulatory Gaps:** Strict licensing, spectrum allocation processes, and complex operational regulations favor massive, established corporations that have the resources to navigate the system, while choking smaller rivals.

  - **Lack of Proactive Market Design:** Regulatory bodies have historically struggled to maintain a diversified playing field, often acting reactively rather than setting structural guidelines to protect smaller mid-tier firms from being undercut.

Challenges posed by Duopoly

- **Inflated Pricing and Reduced Affordability:** Lack of competitive pressure lets dominant firms raise prices with little resistance, increasing consumer costs. **E.g., Food delivery.**
- **Limited Consumer Choice and Market Options:** Shrinks the presence of smaller players leaving consumers with very few alternatives.
- **Stagnation in Innovation:** Innovation is driven by staying slightly ahead of the lone rival, not by fear of disruptive new entrants. **E.g., Telecom sector.**
- **Excessive Lobbying Power and Regulatory Influence:** Powerful duopolistic firms can use their significant influence to protect their interests and block new technologies. **E.g., e-commerce sector.**
- **Systemic Vulnerability and Capacity Failures:** Failure of one player in a duopoly can lead to economy-wide losses and unsatiated demand. **E.g., Recent Indigo crisis in aviation sector.**

Existing Regulatory Mechanism

- **The Competition Act, 2002:** Provides the legal framework to prevent market distortion by prohibiting anti-competitive agreements and the abuse of a dominant market position.
  - Competition Commission of India (CCI) acts as the statutory watchdog responsible for enforcing competition laws.
- **Role of Sectoral Regulators: TRAI** (in Telecom sector), **DGCA** (in aviation sector), among others.

Conclusion

Addressing India's emerging duopolies requires moving beyond **post-facto regulation to proactive market design**. This includes strengthening CCI's ex-ante powers, improving coordination between CCI and sectoral regulators, lowering entry barriers through regulatory sandboxes and shared infrastructure, and ensuring transparent pricing and data portability to empower consumers.

7.8. SPECIAL ECONOMIC ZONES (SEZS)

Why in the News?

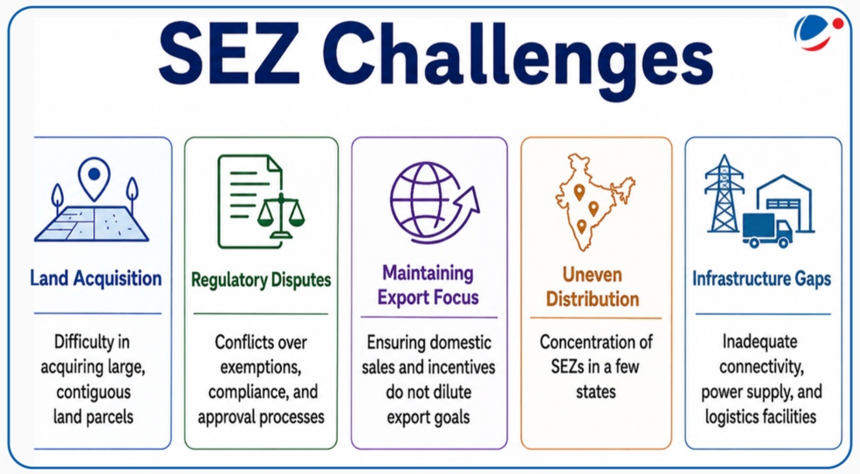
The Central Board of Indirect Taxes and Customs has introduced a one-time relief measure allowing manufacturing units in SEZs to sell goods in the **Domestic Tariff Area** at concessional customs duty rates.

About SEZs:

- **Overview:** They are specifically delineated, duty-free enclaves treated as foreign territory for trade operations and customs duties.
- **Current Status:** India has **368 notified SEZs** (Feb 2026).
- **Legal Provisions:** SEZs are governed by the **SEZ Act of 2005** and **SEZ Rules of 2006**, which provide a simplified regulatory framework.

Significance of SEZs

- **Export Growth: Generating ₹11.70 lakh crore** by December 2025.


SEZ Challenges
Land Acquisition
Difficulty in acquiring large, contiguous land parcels
Regulatory Disputes
Conflicts over exemptions, compliance, and approval processes
Maintaining Export Focus
Ensuring domestic sales and incentives do not dilute export goals
Uneven Distribution
Concentration of SEZs in a few states
Infrastructure Gaps
Inadequate connectivity, power supply, and logistics facilities

- **Investment Hubs:** Attracted **₹7.86 lakh crore** in combined domestic and foreign investments as of December 2025.
- **Job Creation:** Over **31.73 lakh jobs** by December 2025.
- **Infrastructure Development:** Including Mundra Port, Kandla Port, Sri City, and GIFT City**.**
- **Tech & Innovation:** Accelerated high-value manufacturing, research, and technological adoption, particularly in the electronics and semiconductor sectors.
- **Global Competitiveness:** Established India as a stable and reliable destination for international trade and investment.

Government Measures to Promote SEZs

- **SEZ Policy 2000:** To transform these zones into engines of economic growth by providing world-class infrastructure and an attractive fiscal framework at both Central and State levels.
- **SEZ Act, 2005 and SEZ Rules, 2006:** Simplified regulatory framework with single-window clearances for matters relating to both Central and State Governments.
- **SEZ for Manufacturing of Semiconductors & Electronic Components:** In 2025, government notified two new SEZs- one at **Sanand, Gujarat, and another at Dharwad, Karnataka-** for the manufacturing of semiconductors and electronic components.
- **Key SEZ Incentives:**
  - **Duty free import/domestic procurement** of goods for development, operation and maintenance of SEZ units.
  - **Supplies to SEZs are zero rated under IGST Act, 2017.**

Way Forward

- **Legislative Overhaul:** Replacing the outdated SEZ Act of 2005 with the proposed **Development of Enterprise and Services Hub (DESH)** legislation to offer more flexible land-use rules, simplified exits, and integrated domestic market access.
- **Baba Kalyani Committee Recommendations**:
  - Framework shift from export growth to broad-based Employment and Economic Growth (Employment and Economic Enclaves-3Es).
  - Shift from supply driven to demand driven approach for 3Es development to improve efficiency of investment-based on certain industries, current level of existing inventory in the region.
  - Enhance competitiveness by enabling ecosystem development by funding high speed multi modal connectivity, business services and utility infrastructure.
- **Integration with Domestic Markets:** Allowing partial non-SEZ use (dual-use land) and facilitating easier, controlled sub-contracting and sales into the Domestic Tariff Area (DTA).
- **Synergy with Industrial Initiatives:** Aligning SEZs with the Production-Linked Incentive (PLI) schemes and connecting them directly to large-scale industrial corridors and multi-modal logistics networks to reduce transit costs.

Conclusion

Evolving global trade dynamics and domestic challenges necessitate a shift from the traditional export-centric model towards a more holistic framework of employment generation, demand-driven growth, and integration with the domestic market. With effective policy alignment, infrastructure synergy, and governance reforms, SEZs can continue to serve as engines of inclusive and sustainable economic growth in India's Amrit Kaal.

7.9. KEYWORDS

Key Words				
Bharat Audyogik Vikas Yojna (BHAVYA)	Plug-and-Play Industrial Parks	Global Value Chains (GVCs)	Smiling Curve	Production Linked Incentive (PLI) Scheme
National Logistics Policy	PM GatiShakti	National Industrial Corridor Programme	Capital Goods Sector	Micro, Small and Medium Enterprises
India Semiconductor Mission (ISM)	Electronics Components Manufacturing Scheme	Insolvency and Bankruptcy Code (IBC)	Competition Commission of India	Digital Competition Bill
Special Economic Zones	Sagarmala Programme	Maritime India Vision 2030	Shipbuilding Financial Assistance Scheme	

7.10. PRACTICE QUESTION

Discuss the major challenges faced by India's industrial and manufacturing sector in achieving global competitiveness and employment-intensive growth. Examine the policy initiatives undertaken to strengthen manufacturing, MSMEs, logistics, semiconductor ecosystem and maritime infrastructure in India.

Introduction	Body Part 1	Body Part-2	Conclusion
Introduce the importance of industrialisation and manufacturing in economic growth, employment generation and strategic self-reliance.	Mention key challenges such as low R&D spending, infrastructure gaps, import dependence, MSME constraints, weak competitiveness and regulatory bottlenecks.	Mention initiatives like BHAVYA, PLI Scheme, PM MITRA, ISM, ECMS, Sagarmala and industrial corridor programmes along with reforms for innovation and value-chain integration.	Conclude with the need for technology-driven, globally competitive and employment-oriented industrial growth for achieving Atmanirbhar Bharat.

8. SERVICES

8.1. INSURANCE SECTOR IN INDIA

Why in the News?

Recently, the Parliament passed Sabka Bima Sabki Raksha (Amendment of Insurance Laws) Act, 2025.

More about the News

- The Act seeks to **amend the Insurance Act 1938, the Life Insurance Corporation Act, 1956** and the **Insurance Regulatory and Development Authority Act, 1999.**

Challenges affecting Insurance Sector in India

- **Low Penetration**: Despite growth, insurance penetration as percentage of GDP still remains at 3.7%.
- **Capital Constraints**: High minimum capital requirements restrict entry of small players and insurance cooperatives, limiting outreach in rural and underserved areas.
- **Limited Foreign Capital & Reinsurance Capacity**: Restrictions on FDI and high net-owned fund norms for foreign reinsurers reduce capital inflows and risk-sharing capacity, affecting solvency and product expansion.
- **Weak Regulatory Oversight & Governance**: Limited powers of IRDAI earlier constrained effective supervision, allowing governance lapses, inefficiencies in public insurers, and risks to policyholder interests.
- **Financial Literacy & Mis-selling Concerns**: Low awareness and suboptimal advisory services lead to potential mis-selling and poor customer trust.
- **Product Innovation Gap**: Limited innovation in products and services hinders the ability to meet diverse customer needs and emerging risks.
- **Public Sector Constraints**: Public insurers face inadequate capital, financial losses (~₹26,000 crore), overexposure to health insurance, and lack a level playing field with private players.
- **Emerging Risks**: Increasing cyber threats, climate change, pandemics, and other intangible asset exposures require rapid adaptation in coverage and risk management.

How the Act seeks to address the challenges in Insurance Sector

- **Boosts Capital:** The Act amends the definition of an insurance co-operative society to remove the requirement of minimum paid-up share capital of 100 crore rupees for life, general, and health insurance businesses.
- **Foreign Investment: 100% FDI (earlier 74%) in Indian insurance companies** encourages more foreign capital inflows, addressing the **capital inadequacy in public insurers** and strengthening financial stability.
- **Reinsurance**: The Act lowers the **net-owned fund requirement for foreign reinsurers** from ₹5,000 crore to ₹1,000 crore makes reinsurance more accessible, improving **risk-sharing and coverage capacity**.
- **Eases Regulatory Burden:** Increasing the **share transfer approval threshold from 1% to 5%** simplifies corporate processes, reducing administrative delays.
- **Promotes Innovation and Flexibility:** Extending SEZ (Special Economic Zones)/IFSC (International Financial Services Centres) exemptions and adaptations allows insurers and intermediaries to operate with **more regulatory flexibility**, promoting **product innovation and tailored solutions**.
- **Strengthens Policyholder Protection and Awareness:** Creation of a **Policyholders' Education and Protection Fund** helps **educate consumers**, raise financial literacy, and safeguard policyholders' interests, mitigating issues like **mis-selling and underinsurance**.
- **Enhances IRDAI's Oversight Powers:** Empowering IRDAI to **supersede boards, regulate remuneration, inspect intermediaries, and approve schemes of arrangement** strengthens **governance, accountability, and solvency management**, addressing public sector inefficiencies and ensuring consumer protection.
- **LIC Autonomy**: The Act grants Life Insurance Corporation (LIC) the autonomy to open zonal offices and align with foreign regulatory compliance.

Insurance Regulatory and Development Authority India (IRDAI)

Hyderabad, Telangana

- **Genesis:** Formed based on **Malhotra Committee** recommendations.
- **Statutory Body:** Under the **Insurance Regulatory and Development Authority (IRDA) Act, 1999.**
- **Ministry:** Ministry of Finance.
- **Objectives:** Protecting the interests of the policyholders and regulating, promoting and ensuring orderly growth of the insurance industry in India.
- **Role of IRDAI:** Policy formulation, Licensing authority, Regulatory oversight, Consumer protection, Market development.
- **Composition:** IRDAI is a 10-member body- a chairman, five full-time members and four part-time members.

Conclusion

The Sabka Bima Sabki Raksha Act, 2025 is a major reform aimed at **strengthening India's insurance sector** through higher capital inflows, regulatory flexibility, and stronger oversight. By promoting **innovation, improving governance, and enhancing policyholder protection**, it addresses key structural challenges. Effective implementation can significantly improve insurance penetration and support inclusive, resilient economic growth.

फाउंडेशन कोर्स
सामान्य अध्ययन
प्रारंभिक एवं मुख्य परीक्षा 2027
इनोवेटिव क्लासरूम प्रोग्राम

- प्रारंभिक परीक्षा, मुख्य परीक्षा और निबंध के लिए महत्वपूर्ण सभी टॉपिक का विस्तृत कवरेज
- मौलिक अवधारणाओं की समझ के विकास एवं विश्लेषणात्मक क्षमता निर्माण पर विशेष ध्यान
- एनीमेशन, पॉवर प्वाइंट, वीडियो जैसी तकनीकी सुविधाओं का प्रयोग
- अंतर - विषयक समझ विकसित करने का प्रयास
- योजनाबद्ध तैयारी हेतु करेंट ओरिएंटेड अप्रोच
- नियमित क्लास टेस्ट एवं व्यक्तिगत मूल्यांकन
- प्री फाउंडेशन कक्षाएं
- सीसैट कक्षाएं
- PT 365 कक्षाएं
- MAINS 365 कक्षाएं
- PT टेस्ट सीरीज
- मुख्य परीक्षा टेस्ट सीरीज
- निबंध टेस्ट सीरीज
- सीसैट टेस्ट सीरीज
- निबंध लेखन - शैली की कक्षाएं
- करेंट अफेयर्स मैगजीन

नोट: ऑनलाइन छात्र हमारे पाठ्यक्रम की लाइव वीडियो कक्षाएं अपने घर पर ऑनलाइन प्लेटफॉर्म पर देख सकते हैं। छात्र लाइव चैट विकल्प के माध्यम से कक्षा के दौरान अपने संदेह और विषय संबंधी प्रश्न पूछ सकते हैं। वे अपने संदेह और प्रश्न नोट भी कर सकते हैं और दिल्ली केंद्र में हमारे कक्षा सलाहकार को बता सकते हैं और हम फोन/मेल के माध्यम से प्रश्नों का उत्तर देंगे।

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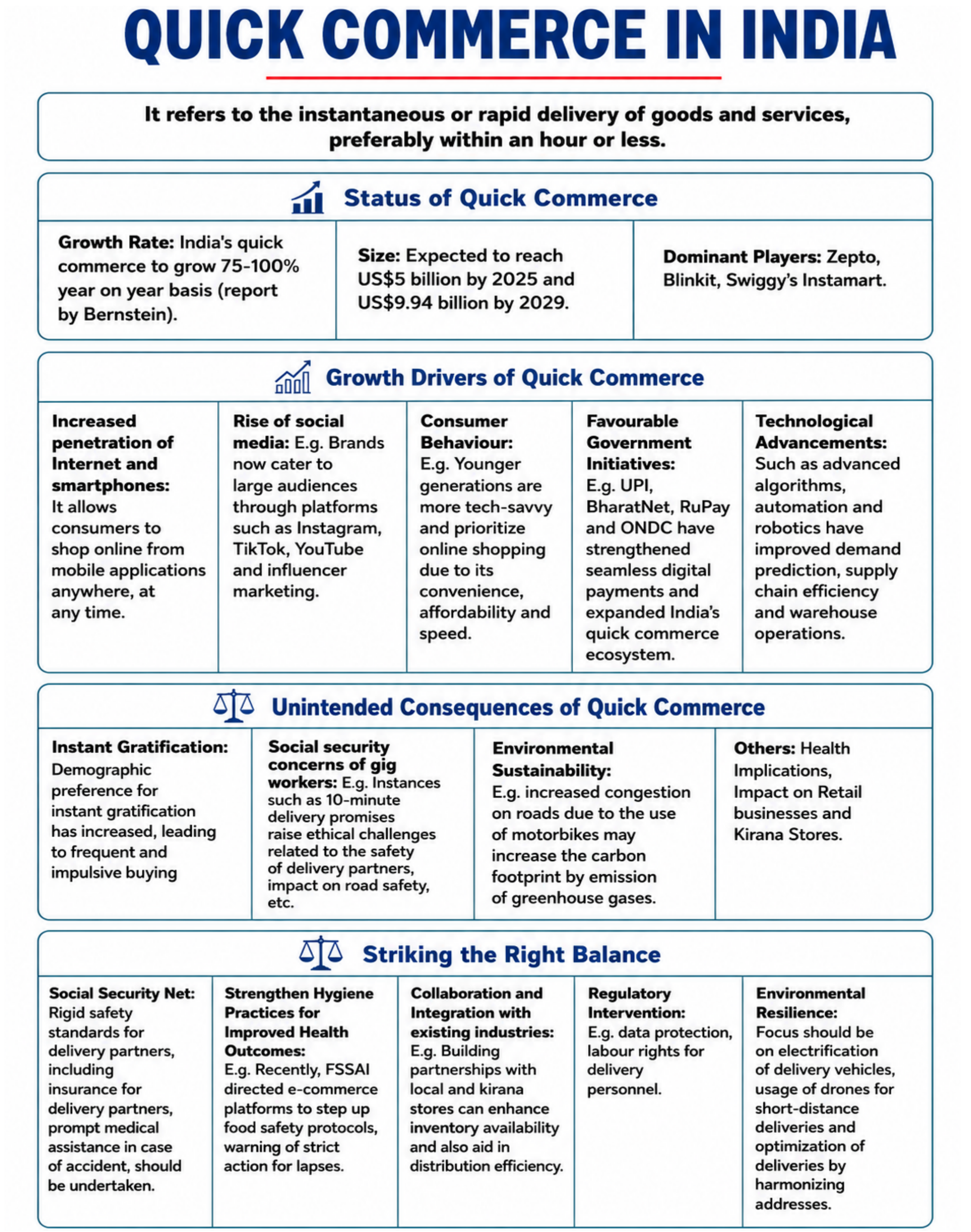
8.2. QUICK COMMERCE IN INDIA AT A GLANCE



QUICK COMMERCE IN INDIA

It refers to the instantaneous or rapid delivery of goods and services, preferably within an hour or less.

Status of Quick Commerce

Growth Rate: India's quick commerce to grow 75-100% year on year basis (report by Bernstein).

Size: Expected to reach US$5 billion by 2025 and US$9.94 billion by 2029.

Dominant Players: Zepto, Blinkit, Swiggy's Instamart.

Growth Drivers of Quick Commerce

Increased penetration of Internet and smartphones: It allows consumers to shop online from mobile applications anywhere, at any time.

Rise of social media: E.g. Brands now cater to large audiences through platforms such as Instagram, TikTok, YouTube and influencer marketing.

Consumer Behaviour: E.g. Younger generations are more tech-savvy and prioritize online shopping due to its convenience, affordability and speed.

Favourable Government Initiatives: E.g. UPI, BharatNet, RuPay and ONDC have strengthened seamless digital payments and expanded India's quick commerce ecosystem.

Technological Advancements: Such as advanced algorithms, automation and robotics have improved demand prediction, supply chain efficiency and warehouse operations.

Unintended Consequences of Quick Commerce

Instant Gratification: Demographic preference for instant gratification has increased, leading to frequent and impulsive buying

Social security concerns of gig workers: E.g. Instances such as 10-minute delivery promises raise ethical challenges related to the safety of delivery partners, impact on road safety, etc.

Environmental Sustainability: E.g. increased congestion on roads due to the use of motorbikes may increase the carbon footprint by emission of greenhouse gases.

Others: Health Implications, Impact on Retail businesses and Kirana Stores.

Striking the Right Balance

Social Security Net: Rigid safety standards for delivery partners, including insurance for delivery partners, prompt medical assistance in case of accident, should be undertaken.

Strengthen Hygiene Practices for Improved Health Outcomes: E.g. Recently, FSSAI directed e-commerce platforms to step up food safety protocols, warning of strict action for lapses.

Collaboration and Integration with existing industries: E.g. Building partnerships with local and kirana stores can enhance inventory availability and also aid in distribution efficiency.

Regulatory Intervention: E.g. data protection, labour rights for delivery personnel.

Environmental Resilience: Focus should be on electrification of delivery vehicles, usage of drones for short-distance deliveries and optimization of deliveries by harmonizing addresses.

8.3. KEYWORDS

Key Words				
Sabka Bima Sabki Raksha Act, 2025	Insurance Regulatory and Development Authority of India	Insurance Penetration	Reinsurance Capacity	Foreign Direct Investment
Policyholders' Education and Protection Fund	International Financial Services Centres	Financial Literacy	Quick Commerce	Gig Workers

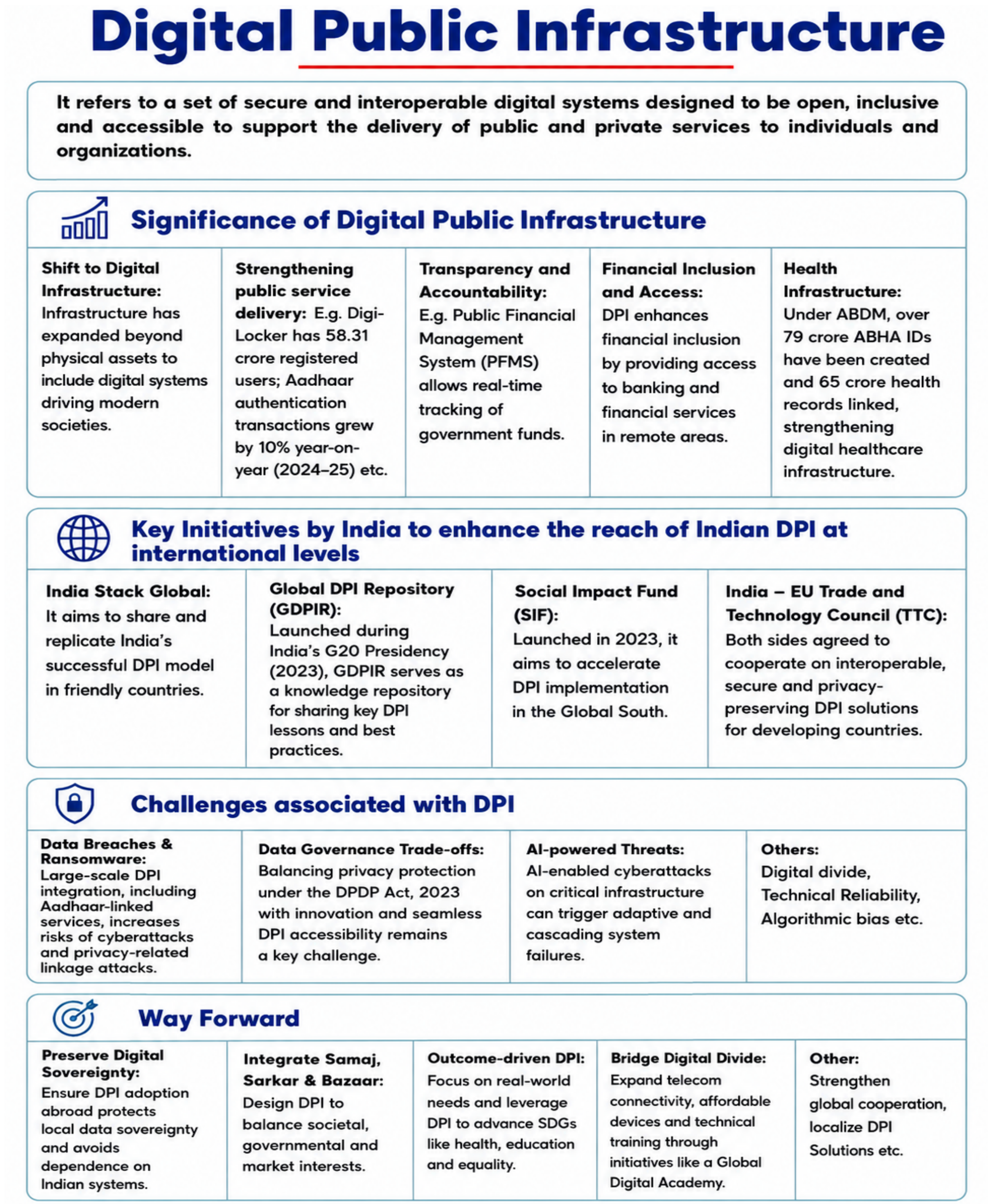
8.4. PRACTICE QUESTION

Discuss the major opportunities and challenges associated with the growth of India's insurance and quick commerce sectors. Examine the recent reforms and policy measures undertaken to promote innovation, consumer protection, financial inclusion and sustainable growth in these sectors.

Introduction	Body Part 1	Body Part-2	Conclusion
Introduce the growing importance of insurance and quick commerce sectors in India's digital and service economy.	Mention key challenges such as low insurance penetration, mis-selling, gig worker insecurity, environmental concerns and impact on small retailers.	Mention reforms like Sabka Bima Sabki Raksha Act, 2025, IRDAI empowerment, ONDC, digital payment initiatives and measures for consumer protection and sustainable growth.	Conclude with the need for balanced regulation, innovation and inclusive policies for resilient growth of service sectors.

9. INFRASTRUCTURE

9.1. DIGITAL PUBLIC INFRASTRUCTURE AT A GLANCE



Digital Public Infrastructure

It refers to a set of secure and interoperable digital systems designed to be open, inclusive and accessible to support the delivery of public and private services to individuals and organizations.

Significance of Digital Public Infrastructure

Shift to Digital Infrastructure: Infrastructure has expanded beyond physical assets to include digital systems driving modern societies.

Strengthening public service delivery: E.g. Digi-Locker has 58.31 crore registered users; Aadhaar authentication transactions grew by 10% year-on-year (2024–25) etc.

Transparency and Accountability: E.g. Public Financial Management System (PFMS) allows real-time tracking of government funds.

Financial Inclusion and Access: DPI enhances financial inclusion by providing access to banking and financial services in remote areas.

Health Infrastructure: Under ABDM, over 79 crore ABHA IDs have been created and 65 crore health records linked, strengthening digital healthcare infrastructure.

Key Initiatives by India to enhance the reach of Indian DPI at international levels

India Stack Global: It aims to share and replicate India's successful DPI model in friendly countries.

Global DPI Repository (GDPIR): Launched during India's G20 Presidency (2023), GDPIR serves as a knowledge repository for sharing key DPI lessons and best practices.

Social Impact Fund (SIF): Launched in 2023, it aims to accelerate DPI implementation in the Global South.

India – EU Trade and Technology Council (TTC): Both sides agreed to cooperate on interoperable, secure and privacy-preserving DPI solutions for developing countries.

Challenges associated with DPI

Data Breaches & Ransomware: Large-scale DPI integration, including Aadhaar-linked services, increases risks of cyberattacks and privacy-related linkage attacks.

Data Governance Trade-offs: Balancing privacy protection under the DPDP Act, 2023 with innovation and seamless DPI accessibility remains a key challenge.

AI-powered Threats: AI-enabled cyberattacks on critical infrastructure can trigger adaptive and cascading system failures.

Others: Digital divide, Technical Reliability, Algorithmic bias etc.

Way Forward

Preserve Digital Sovereignty: Ensure DPI adoption abroad protects local data sovereignty and avoids dependence on Indian systems.

Integrate Samaj, Sarkar & Bazaar: Design DPI to balance societal, governmental and market interests.

Outcome-driven DPI: Focus on real-world needs and leverage DPI to advance SDGs like health, education and equality.

Bridge Digital Divide: Expand telecom connectivity, affordable devices and technical training through initiatives like a Global Digital Academy.

Other: Strengthen global cooperation, localize DPI Solutions etc.

9.2. REGIONAL CONNECTIVITY SCHEME (RCS) – MODIFIED UDAN

Why in the News?

The Union Cabinet recently approved the Regional Connectivity Scheme (RCS) **– Modified UDAN** for a **10-year period from FY 2026-27 to FY 2035-36.**

Key Features of RCS-Modified UDAN

- **Budget Outlay: Total outlay of ₹28,840 crore**, backed entirely by government budgetary support.
- **Components of the RCS-Modified UDAN**
    - **Development of Aerodromes (CAPEX):** Development of **100 airports from existing unserved airstrips over the next eight years.**
    - **Operation & Maintenance (O&M) Support:** Provision of O&M support for **three years** to **~ 441 aerodromes.**
    - **Development of Modern Helipads:** Construction of **200 modern helipads** in hilly, remote, island, and aspirational regions at ₹15 crore each**.**
    - **Viability Gap Funding (VGF):** Recognising the need for longer market development, VGF support to airline operators is proposed over 10 years.
    - **Atmanirbhar Bharat and Indigenous Aviation Capacity:** Procurement of **two HAL Dhruv helicopters for Pawan Hans and two HAL Dornier aircraft for Alliance Air** to address aircraft shortages in difficult terrains and promote Atmanirbhar Bharat vision.
- **Challenge Mode Implementation:** UDAN airports will be developed under a **'Challenge Mode'** to ensure timely completion, quality, and sustainability.

Issues and Challenges associated with the UDAN

- **Aviation Safety Concerns:** A **Parliamentary Standing Committee** highlighted systemic safety issues, **including**:
    - 100 safety lapses flagged in a single airline audit and 19 safety violation notices,
    - Recurring technical defects in 377 out of 754 audited aircraft.
        - The recent **Ahmedabad crash** resulted in 260 fatalities.
- **Route Sustainability:** The Ministry has acknowledged the **absence of a structured exit strategy for routes that complete their VGF subsidy period.**
- **Operational Discontinuations**: Out of **925** awarded routes, **327** were **discontinued** due to **factors** like the COVID-19 pandemic, aircraft shortages, supply chain disruptions, maintenance issues, and low passenger demand.
    - **Over 150 awarded routes remain uncommenced.**
- **Manpower Shortages:** The Directorate General of Civil Aviation **(DGCA) faces a severe staff crunch** with a **vacancy rate of 48.3%,** operating with only 843 incumbents against 1,630 sanctioned posts.
- **Passenger Rights:** Despite carrying over 350 million passengers annually, **India lacks a comprehensive statutory passenger rights framework** to govern compensation and delay management.

Way Forward (Recommendations of the Parliamentary Standing Committee)

- **Independent Safety Review:** Constitute an independent **High-Level Committee on Aviation Safety** to conduct a **comprehensive safety review** and perform a root-cause analysis of systemic failures.
- **Formal Impact Assessment:** Conduct a **formal, independent impact assessment of the UDAN scheme** covering cost per passenger, route-wise viability, and the proportion of routes achieving self-sustainability.
- **DGCA Capacity Building:** Prepare and execute a comprehensive, time-bound recruitment and deputation schedule to resolve DGCA manpower vacancies.
- **Passenger Rights Charter:** Develop a **formal Passenger Rights Charter under the Bharatiya Vayuyan Adhiniyam 2024** to address compensation, delay management, and accountability standards.
- **Enhanced Transparency:** Improve parliamentary visibility of the Airports Authority of India's **(AAI) capital investment programmes.**

About UDAN (Ude Desh ka Aam Nagrik) Scheme

- **Launch:** Conceptualized under the **National Civil Aviation Policy (NCAP) 2016** and officially **launched on October 21, 2016.**
- **Type**: Central **Sector** Scheme.
- **Ministry**: **Ministry of Civil Aviation.**
- **Implementing Agency:** The Airports Authority of India (**AAI**).
- **Objective: Democratize aviation** by making flying accessible and affordable for the common citizen through a market-driven, financially supported model.
- **Key Mechanisms:** Provides **Viability Gap Funding (VGF)** to airlines, mandates an airfare cap, and utilizes a collaborative governance model among the Centre, States, and airport operators.
- **Stakeholder Incentives:** Includes waived landing and parking charges by airport operators, a 2% cap on ATF excise duty by the Central Government, and VAT reduction to 1% or less on ATF by State Governments.
- **Achievements (as of March 2026):**
    - **Phased Expansion (UDAN 1.0 to 5.0 Series):** Progressively expanded to cover unserved/underserved airports, helipads (UDAN 2.0), Tourism Routes and Seaplanes (UDAN 3.0), and hilly/island territories (UDAN 4.0), and Diversified last-mile connectivity (UDAN 5.0 to 5.5).
    - Operationalised **663 routes across 95 airports**, heliports, and water aerodromes.
    - **Disbursed ₹4,593.28 crore** as Viability Gap Funding to selected airlines since its inception.
    - Facilitated the expansion of **India's overall airport network from 74 in 2014 to 159 in 2024.**

Conclusion

Strengthening aviation safety, regulatory capacity, and passenger-centric governance is essential for ensuring the sustainable growth of India's civil aviation sector. Implementing the Parliamentary Committee's recommendations can enhance transparency, improve operational efficiency, and build greater public confidence in the aviation ecosystem.

9.2.1. AVIATION SAFETY

Why in the News?

Recently, **the Aircraft Accident Investigation Bureau (AAIB)** released a preliminary report of the investigation into the fatal plane crash in Ahmedabad.

Status of Aviation Sector in India

Rank: India is the **third-largest aviation market** globally in terms of passenger traffic (Passengers >350 million)

Gender Equality: 15% of the pilots in India are women (global average is 5%).

Growth: 10-12% of annual growth in domestic air passenger traffic.

Capex: ₹91,000 crore under National Infrastructure Pipeline (NIP) during FY 2019-20 to FY 2024-25.

Green Transition: 81 airports have switched over to 100% green energy usage.

Maintenance, Repair & Overhaul (MRO): A uniform 5% Integrated GST rate for aircraft parts to promote India as a competitive global MRO hub.

Institutional Frameworks for Aviation Security in India

- **Directorate General of Civil Aviation (DGCA): Regulatory body in the field of Civil Aviation**, primarily dealing with safety issues.

- **Airports Economic Regulatory Authority of India (AERA): Established** in 2009 under the **Airports Economic Regulatory Authority of India Act, 2008,** to regulate tariffs for aeronautical services, and monitor the performance standards of such airports.
- **Bureau of Civil Aviation Security (BCAS):** It lays down **Aviation Security Standards** per **Annex 17 to the Chicago Convention** of ICAO.
  - **International Civil Aviation Organization (ICAO)** is an UN agency which helps countries to cooperate together and share their skies to their mutual benefit.
- **Aircraft Accident Investigation Bureau:** It facilitates investigation and administrative work of the Court or Assessors appointed by the Central Government under the **Aircraft (Investigation of Accidents and Incidents) Rules, 2017.**

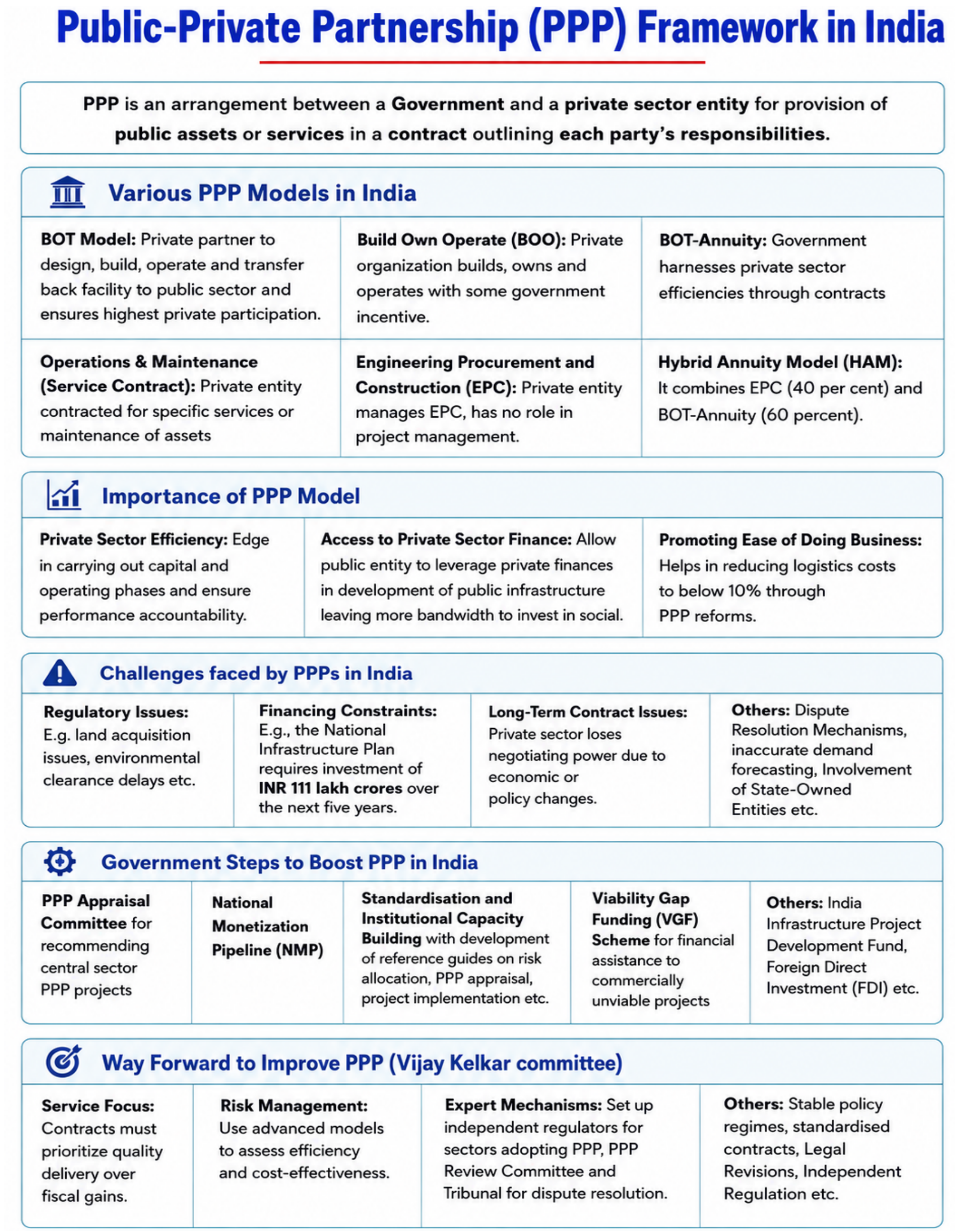
Issues and recommendations of aviation security by the Parliamentary Standing Committee on Transport, Tourism and Culture

Domain	Challenges	Recommendations
Imbalanced capital outlay	**DGCA receives ~50% of aviation capital budget** raising concerns about security infrastructure and accident investigation capabilities.	**Balanced allocation across aviation bodies** to address critical gaps in security and investigative resources.
Acute manpower Shortage	Vacancies in **DGCA, BCAS and AAI are 53.8%, 34.7% and 17% respectively.**	**Expedite Recruitment Process** and **adopt a long-term workforce planning strategy** to fill vacancies.
UDAN Expansion	**Reduced allocation in UDAN by 32%** in budget (2024-25) even when expansion in hilly and North Eastern regions will require enhanced security protocols.	**Assess fund adequacy to strengthen security infrastructure under modified UDAN scheme** to develop proportionate infrastructure.
Regulatory Oversight Mechanism	**High dependence on general budgetary allocations and lack of sustainable funding mechanism** for aviation oversight functions at both national and regional levels	**Establish Integrated Safety Mechanism to** promote collaboration between **DGCA, BCAS, and other bodies** for multi-modal transport safety standards and sustainable funding mechanisms**.**
Navigation Systems	Severe flight disruptions due to **bad weather conditions induced by smog.**	Installation of **Instrument Landing System (ILS)** at all airports at the earliest.
Strengthening Surveillance and Enforcement Mechanisms	**Large backlog of unresolved safety findings**, especially in airworthiness & aerodrome standards.	**Time-bound mechanism** for deficiency closure and stronger enforcement actions, including financial penalties.
Addressing Recurring Operational Risks	**Persistent incidents** due to inadequate root-cause analysis despite a dedicated Occurrence Review Board.	Detailed root-cause analysis for each incident and **focused remedial programs**.

Conclusion

India has aligned its regulations with ICAO's global standards and has also been appreciated by ICAO's safety audit. Adoption of the Delhi Declaration at the Asia-Pacific Ministerial Conference (2024) is a testament to India's strong commitment to Open Skies and global connectivity. Incidents like the recent crash must be thoroughly investigated to prevent such recurrence and make the aviation sector safe and secure.

9.3. PUBLIC PRIVATE PARTNERSHIP (PPP) AT A GLANCE



Public-Private Partnership (PPP) Framework in India

PPP is an arrangement between a **Government** and a **private sector entity** for provision of **public assets or services** in a **contract** outlining **each party's responsibilities.**

Various PPP Models in India

- **BOT Model:** Private partner to design, build, operate and transfer back facility to public sector and ensures highest private participation.
- **Build Own Operate (BOO):** Private organization builds, owns and operates with some government incentive.
- **BOT-Annuity:** Government harnesses private sector efficiencies through contracts
- **Operations & Maintenance (Service Contract):** Private entity contracted for specific services or maintenance of assets
- **Engineering Procurement and Construction (EPC):** Private entity manages EPC, has no role in project management.
- **Hybrid Annuity Model (HAM):** It combines EPC (40 per cent) and BOT-Annuity (60 percent).

Importance of PPP Model

- **Private Sector Efficiency:** Edge in carrying out capital and operating phases and ensure performance accountability.
- **Access to Private Sector Finance:** Allow public entity to leverage private finances in development of public infrastructure leaving more bandwidth to invest in social.
- **Promoting Ease of Doing Business:** Helps in reducing logistics costs to below 10% through PPP reforms.

Challenges faced by PPPs in India

- **Regulatory Issues:** E.g. land acquisition issues, environmental clearance delays etc.
- **Financing Constraints:** E.g., the National Infrastructure Plan requires investment of **INR 111 lakh crores** over the next five years.
- **Long-Term Contract Issues:** Private sector loses negotiating power due to economic or policy changes.
- **Others:** Dispute Resolution Mechanisms, inaccurate demand forecasting, Involvement of State-Owned Entities etc.

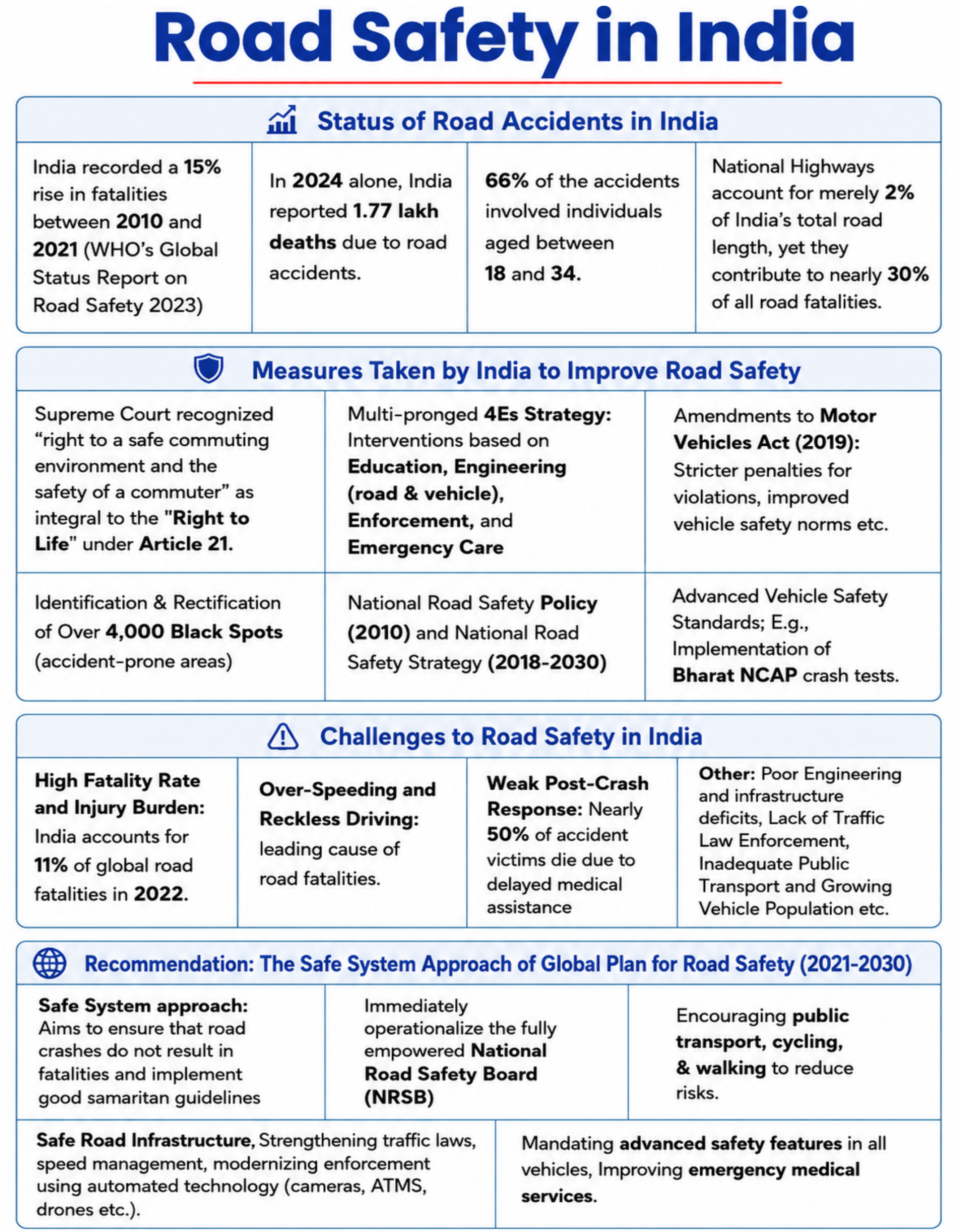
Government Steps to Boost PPP in India

- **PPP Appraisal Committee** for recommending central sector PPP projects
- **National Monetization Pipeline (NMP)**
- **Standardisation and Institutional Capacity Building** with development of reference guides on risk allocation, PPP appraisal, project implementation etc.
- **Viability Gap Funding (VGF) Scheme** for financial assistance to commercially unviable projects
- **Others:** India Infrastructure Project Development Fund, Foreign Direct Investment (FDI) etc.

Way Forward to Improve PPP (Vijay Kelkar committee)

- **Service Focus:** Contracts must prioritize quality delivery over fiscal gains.
- **Risk Management:** Use advanced models to assess efficiency and cost-effectiveness.
- **Expert Mechanisms:** Set up independent regulators for sectors adopting PPP, PPP Review Committee and Tribunal for dispute resolution.
- **Others:** Stable policy regimes, standardised contracts, Legal Revisions, Independent Regulation etc.

9.4. ROAD SAFETY IN INDIA AT A GLANCE



Road Safety in India

Status of Road Accidents in India

- India recorded a **15%** rise in fatalities between **2010** and **2021** (WHO's Global Status Report on Road Safety 2023)
- In **2024** alone, India reported **1.77 lakh deaths** due to road accidents.
- **66%** of the accidents involved individuals aged between **18** and **34.**
- National Highways account for merely **2%** of India's total road length, yet they contribute to nearly **30%** of all road fatalities.

Measures Taken by India to Improve Road Safety

- Supreme Court recognized "right to a safe commuting environment and the safety of a commuter" as integral to the "**Right to Life**" under **Article 21.**
- Multi-pronged **4Es Strategy:** Interventions based on **Education, Engineering (road & vehicle), Enforcement,** and **Emergency Care**
- Amendments to **Motor Vehicles Act (2019):** Stricter penalties for violations, improved vehicle safety norms etc.
- Identification & Rectification of Over **4,000 Black Spots** (accident-prone areas)
- National Road Safety **Policy (2010)** and National Road Safety Strategy **(2018-2030)**
- Advanced Vehicle Safety Standards; E.g., Implementation of **Bharat NCAP** crash tests.

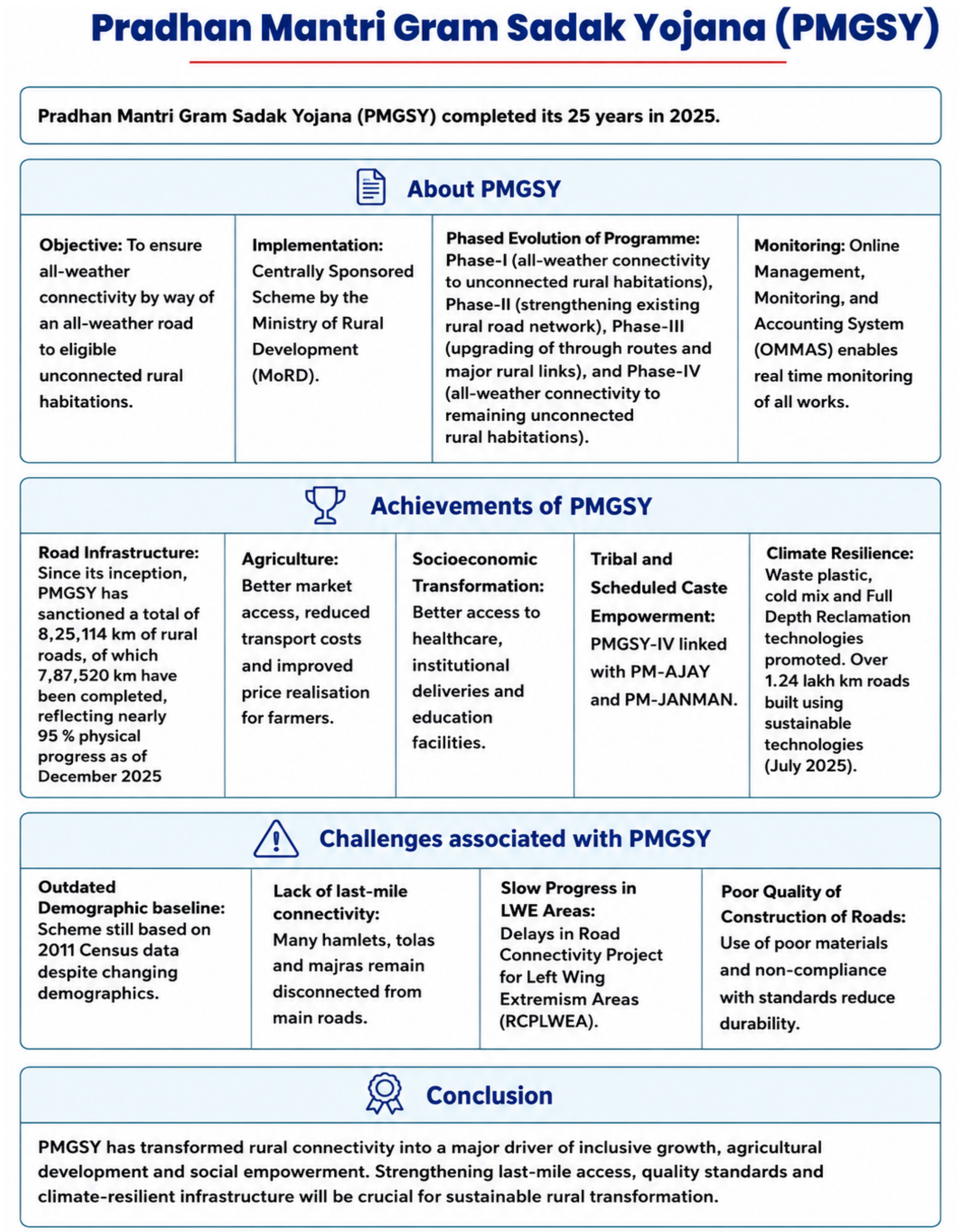
Challenges to Road Safety in India

- **High Fatality Rate and Injury Burden:** India accounts for **11%** of global road fatalities in **2022.**
- **Over-Speeding and Reckless Driving:** leading cause of road fatalities.
- **Weak Post-Crash Response:** Nearly **50%** of accident victims die due to delayed medical assistance
- **Other:** Poor Engineering and infrastructure deficits, Lack of Traffic Law Enforcement, Inadequate Public Transport and Growing Vehicle Population etc.

Recommendation: The Safe System Approach of Global Plan for Road Safety (2021-2030)

- **Safe System approach:** Aims to ensure that road crashes do not result in fatalities and implement good samaritan guidelines
- Immediately operationalize the fully empowered **National Road Safety Board (NRSB)**
- Encouraging **public transport, cycling, & walking** to reduce risks.
- **Safe Road Infrastructure,** Strengthening traffic laws, speed management, modernizing enforcement using automated technology (cameras, ATMS, drones etc.).
- Mandating **advanced safety features** in all vehicles, Improving **emergency medical services.**

9.5. PRADHAN MANTRI GRAM SADAK YOJANA (PMGSY) AT A GLANCE



Pradhan Mantri Gram Sadak Yojana (PMGSY)

Pradhan Mantri Gram Sadak Yojana (PMGSY) completed its 25 years in 2025.

About PMGSY

- **Objective:** To ensure all-weather connectivity by way of an all-weather road to eligible unconnected rural habitations.
- **Implementation:** Centrally Sponsored Scheme by the Ministry of Rural Development (MoRD).
- **Phased Evolution of Programme:** Phase-I (all-weather connectivity to unconnected rural habitations), Phase-II (strengthening existing rural road network), Phase-III (upgrading of through routes and major rural links), and Phase-IV (all-weather connectivity to remaining unconnected rural habitations).
- **Monitoring:** Online Management, Monitoring, and Accounting System (OMMAS) enables real time monitoring of all works.

Achievements of PMGSY

- **Road Infrastructure:** Since its inception, PMGSY has sanctioned a total of 8,25,114 km of rural roads, of which 7,87,520 km have been completed, reflecting nearly 95 % physical progress as of December 2025
- **Agriculture:** Better market access, reduced transport costs and improved price realisation for farmers.
- **Socioeconomic Transformation:** Better access to healthcare, institutional deliveries and education facilities.
- **Tribal and Scheduled Caste Empowerment:** PMGSY-IV linked with PM-AJAY and PM-JANMAN.
- **Climate Resilience:** Waste plastic, cold mix and Full Depth Reclamation technologies promoted. Over 1.24 lakh km roads built using sustainable technologies (July 2025).

Challenges associated with PMGSY

- **Outdated Demographic baseline:** Scheme still based on 2011 Census data despite changing demographics.
- **Lack of last-mile connectivity:** Many hamlets, tolas and majras remain disconnected from main roads.
- **Slow Progress in LWE Areas:** Delays in Road Connectivity Project for Left Wing Extremism Areas (RCPLWEA).
- **Poor Quality of Construction of Roads:** Use of poor materials and non-compliance with standards reduce durability.

Conclusion

PMGSY has transformed rural connectivity into a major driver of inclusive growth, agricultural development and social empowerment. Strengthening last-mile access, quality standards and climate-resilient infrastructure will be crucial for sustainable rural transformation.

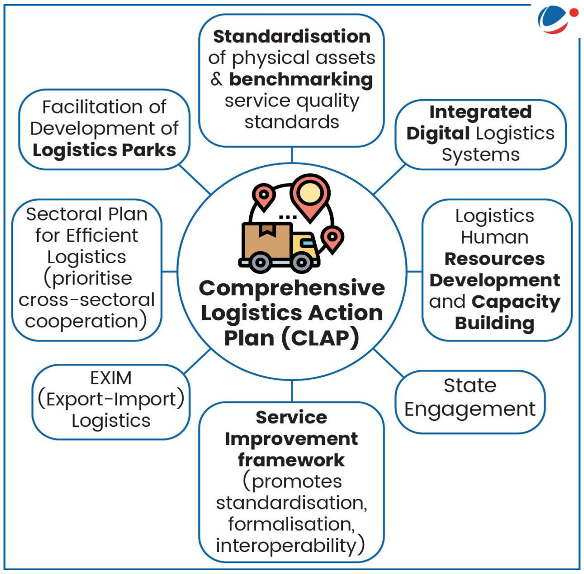
9.6. NATIONAL LOGISTICS POLICY, 2022

Why in the News?

Union Ministry of Commerce and Industry commemorated third anniversary of the National Logistics Policy (NLP), 2022.

About National Logistics Policy (NLP), 2022

- **Genesis**: It was launched to complement the **PM Gati Shakti National Master Plan (PMGS-NMP).**
- **Vision:** To develop a technologically enabled, integrated, cost-efficient, resilient, sustainable and trusted logistics ecosystem for accelerated and inclusive growth.
- **NLP** addresses the **soft infrastructure** and **logistics sector** development aspect such as process reforms, improvement in logistics services, digitization, human resource development and skilling.
  - While, **PMGS-NMP** addresses integrated development of the **fixed infrastructure** and network planning.
- **Targets:**
  - **Reduce cost of logistics in India** to be comparable to global benchmarks by 2030.
    - Presently, India's estimated logistics cost in 2023-24 is at 7.97% (NCAER).
  - **Improve the Logistics Performance Index ranking**: Endeavour is to be among top 25 countries by 2030.
    - Presently, India ranks 38th in World Bank's LPI 2023 (improvement from 44th in 2018).
  - **Create data driven decision support mechanism** for an efficient logistics ecosystem.
- **Implementation through Comprehensive Logistics Action Plan (CLAP):** It divided into 8 key action areas (See Infographic).


Standardisation of physical assets & benchmarking service quality standards
Facilitation of Development of Logistics Parks
Integrated Digital Logistics Systems
Sectoral Plan for Efficient Logistics (prioritise cross-sectoral cooperation)
Comprehensive Logistics Action Plan (CLAP)
Logistics Human Resources Development and Capacity Building
EXIM (Export-Import) Logistics
State Engagement
Service Improvement framework (promotes standardisation, formalisation, interoperability)

Key achievements under the National Logistics Policy (2022–2025)

- **Logistics Ease Across Different States (LEADS) Index:** Played a crucial role in promoting competitive federalism among states and supporting India's rise in the World Bank's **Logistics Performance Index 2023**.
- **Unified Logistics Interface Platform (ULIP)**: It has facilitated secure API integration across more than 30 digital systems, enabling over **160 crore digital transactions** as of August 2025.
  - **ULIP** is a digital platform that brings together data from various logistics-related ministries and departments on a single interface.
- **Improved Digital Integration: Ease of Logistics Services (E-Logs)** portal has onboarded **35+ logistics** and industry associations, and has **successfully resolved 100 out of 140 issues** submitted by stakeholders**.**
- **Logistics at regional level:** 27 States and Union Territories have **formulated State Logistics Policies**, 19 States have granted industry status to logistics, enabling **tax benefits and incentives.**

Other initiatives to Improve Logistics Sector in India

- **Grant of Infrastructure status**: It has enabled access to cheaper, long-term funding, similar to roads and railways, further solidifying its significant role in the growth story of India.
- **Integrated State and City Logistics Plans:** Under the **Strengthening Multimodal and Integrated Logistics Ecosystem (SMILE) programme** in collaboration with the Asian Development Bank (ADB).

Challenges related to Logistics sector

- **Modal imbalance:** Railways and road transport's modal share of freight traffic is 18% and 71%, respectively. (NITI Aayog, 2021)
- **Dominance of unorganized sector:** Highly fragmented logistics industry with domination of several small and unorganized players (~90%). (KPMG, 2022)
- **Digital literacy**: Digital adoption among **smaller logistics firms** and independent operators remains uneven, especially outside urban centres.
- **Regulatory complexity:** Overlapping state and Union regulations, inconsistent implementation of **GST for logistics**, and varied licensing norms create operational uncertainties for both **digital startups** and established companies.

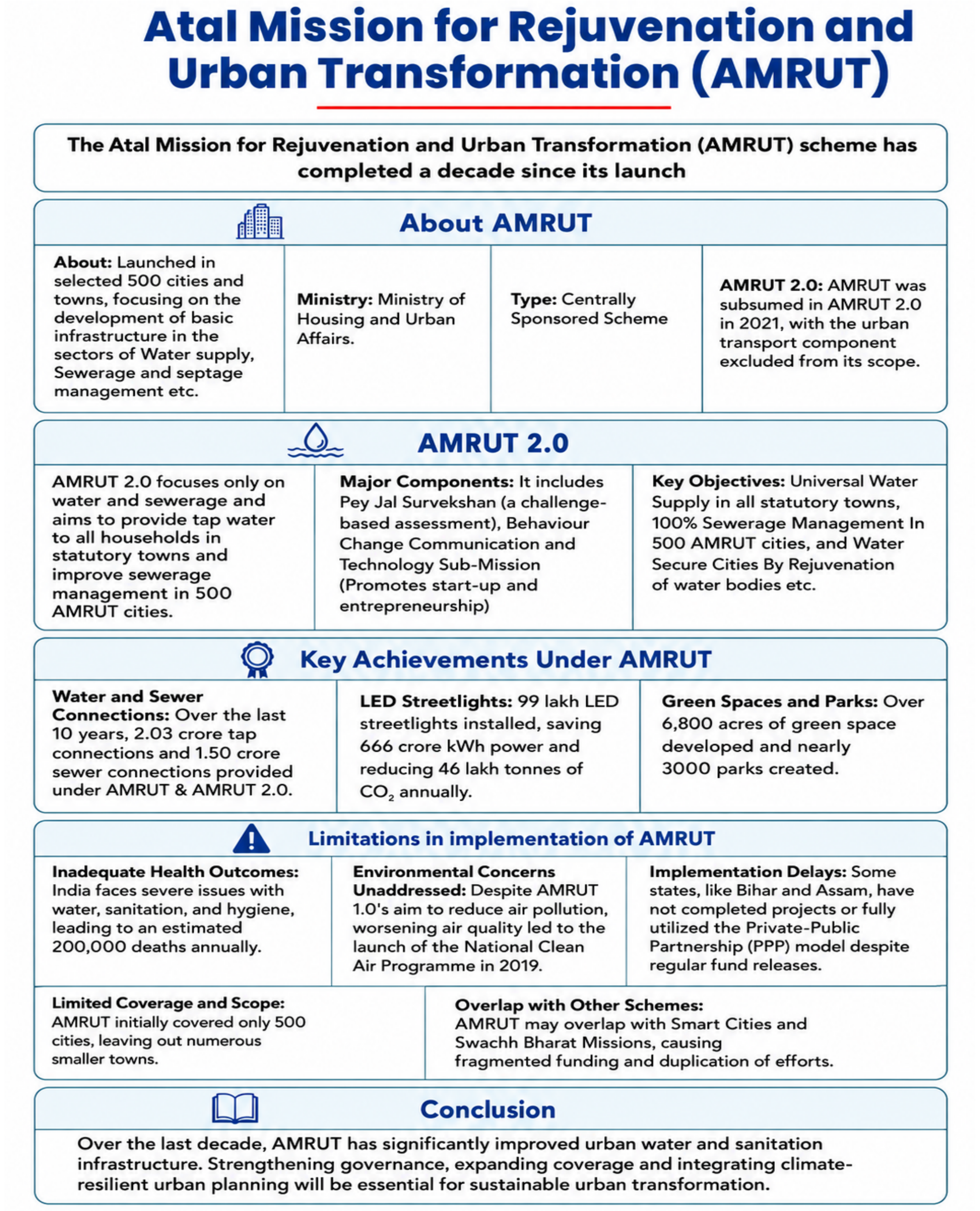
Way Forward

- **Promote efficient modal mix:** Expedition of the completion of **Dedicated Freight Corridors (DFCs),** promoting Inland Waterways, promoting RORO (Roll-On/Roll-Off) service, etc., can reduce logistics cost and improve efficiency.
- **Adaptation to evolving formats:** With the rise of e-Commerce, logistics and warehouse companies can strategise and manage their operations as per the evolving formats such as omnichannel retail, quick commerce and other models such as Buy Online, Pick up in store (BOPIS).
- **Public-Private Partnerships**: Collaborations between startups like Rivigo and small fleet operators to provide affordable, plug-and-play digital solutions.
  - **E.g., Rivigo's** AI algorithms suggest optimal routes, reducing travel distance, fuel consumption, and delivery costs.
- **Technological integration:** Process-oriented automation systems that leverages scanners, barcodes, to streamline the data collection and integration process, on-demand warehousing through app-based tools, etc.

Conclusion

As India aspires to become a global manufacturing hub and achieve its sustainability goals, logistics will play the role in reducing costs, enhancing competitiveness, and fostering inclusive development. A forward-looking, innovation-driven and collaborative approach can turn India's logistics sector into not just a facilitator of commerce, but a strategic driver of national progress.

9.7. ATAL MISSION FOR REJUVENATION AND URBAN TRANSFORMATION (AMRUT) AT A GLANCE



Atal Mission for Rejuvenation and Urban Transformation (AMRUT)

The Atal Mission for Rejuvenation and Urban Transformation (AMRUT) scheme has completed a decade since its launch

About AMRUT

About: Launched in selected 500 cities and towns, focusing on the development of basic infrastructure in the sectors of Water supply, Sewerage and septage management etc.	**Ministry:** Ministry of Housing and Urban Affairs.	**Type:** Centrally Sponsored Scheme	**AMRUT 2.0:** AMRUT was subsumed in AMRUT 2.0 in 2021, with the urban transport component excluded from its scope.

AMRUT 2.0

AMRUT 2.0 focuses only on water and sewerage and aims to provide tap water to all households in statutory towns and improve sewerage management in 500 AMRUT cities.	**Major Components:** It includes Pey Jal Survekshan (a challenge-based assessment), Behaviour Change Communication and Technology Sub-Mission (Promotes start-up and entrepreneurship)	**Key Objectives:** Universal Water Supply in all statutory towns, 100% Sewerage Management In 500 AMRUT cities, and Water Secure Cities By Rejuvenation of water bodies etc.

Key Achievements Under AMRUT

Water and Sewer Connections: Over the last 10 years, 2.03 crore tap connections and 1.50 crore sewer connections provided under AMRUT & AMRUT 2.0.	**LED Streetlights:** 99 lakh LED streetlights installed, saving 666 crore kWh power and reducing 46 lakh tonnes of CO_2 annually.	**Green Spaces and Parks:** Over 6,800 acres of green space developed and nearly 3000 parks created.

Limitations in implementation of AMRUT

Inadequate Health Outcomes: India faces severe issues with water, sanitation, and hygiene, leading to an estimated 200,000 deaths annually.	**Environmental Concerns Unaddressed:** Despite AMRUT 1.0's aim to reduce air pollution, worsening air quality led to the launch of the National Clean Air Programme in 2019.	**Implementation Delays:** Some states, like Bihar and Assam, have not completed projects or fully utilized the Private-Public Partnership (PPP) model despite regular fund releases.

Limited Coverage and Scope: AMRUT initially covered only 500 cities, leaving out numerous smaller towns.	**Overlap with Other Schemes:** AMRUT may overlap with Smart Cities and Swachh Bharat Missions, causing fragmented funding and duplication of efforts.

Conclusion

Over the last decade, AMRUT has significantly improved urban water and sanitation infrastructure. Strengthening governance, expanding coverage and integrating climate-resilient urban planning will be essential for sustainable urban transformation.

9.7.1. URBAN CHALLENGE FUND (UCF)

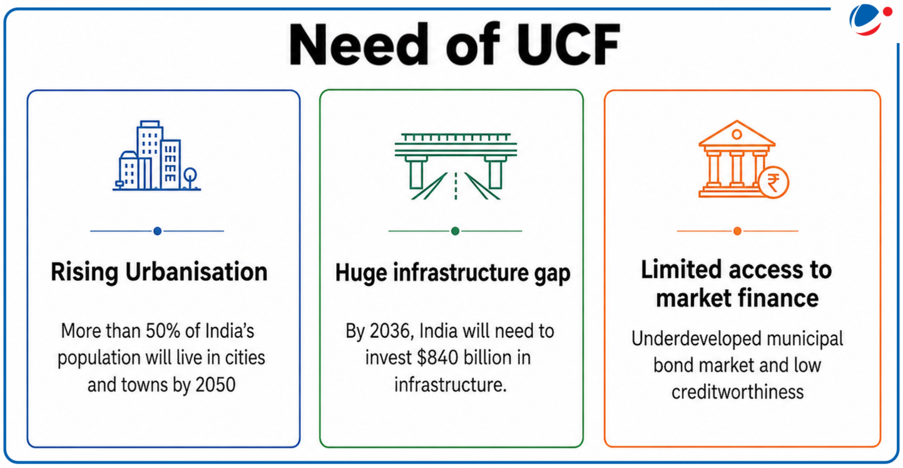
Why in the News?

Ministry of Housing and Urban Affairs (MoHUA) launched operational guidelines of Urban Challenge Fund (UCF).

More on the news

- Along with the guidelines for the UCF, the guidelines for the **Credit Repayment Guarantee Sub-Scheme** have also been launched.
- UCF will leverage market finance, private participation and citizen- centric reforms for delivery of high-quality urban infrastructure.

About Urban Challenge Fund



Need of UCF

Rising Urbanisation

More than 50% of India's population will live in cities and towns by 2050

Huge infrastructure gap

By 2036, India will need to invest $840 billion in infrastructure.

Limited access to market finance

Underdeveloped municipal bond market and low creditworthiness

- **Scheme Type**: Centrally Sponsored Scheme**.**
- **Fund Allocation**: 1 Lakh crore (this will facilitate a total investment of ₹4 lakh crore in next five years).
- **Funding pattern**:
    - 25% of the project cost will be provided through the fund.
    - At least 50% must be mobilised from market sources, ensuring private participation.
    - The remaining 25% can be contributed by States/UTs/ULBs or raised from the market.
- **Focus areas**: Creative development of cities', Cities as growth hubs', and Water and sanitation'.
- **Eligible Cities**:
    - All cities with a population of 10 lakh or more (2025 estimates);
    - All State and Union Territory capitals not covered above; and
    - Major industrial cities with a population of 1 lakh or more.
- **Implementation period**: FY 2025–26 to 2030–31 (with scope for extension).
- Projects already funded under AMRUT 2.0/ SBM 2.0/ other CSS are not eligible under UCF.

Guiding Principles of UCF Implementation

- **Market-linked financing**: Requires substantial funding from market sources, with limited central support to ensure fiscal discipline.
- **Challenge-based selection**: Projects chosen through a competitive process focusing on impact and reforms.
- **Reform-linked disbursement**: Funds released only when governance, financial and planning reforms are undertaken.
- **Outcome-based approach**: Funding tied to performance, milestones and measurable results.

About Credit Repayment Guarantee Sub-Scheme(CRGSS)

- It enables **Urban Local Bodies (ULBs)**, especially smaller cities, to access market-based financing through credit guarantees
- **Target beneficiaries**: Tier-II, Tier-III cities, and cities in North-Eastern and hilly regions.
- It will provide a Central guarantee of up to ₹7 crore or 70 per cent of the loan amount (whichever is lower) for first-time loans.

Conclusion

The Urban Challenge Fund represents a shift towards outcome-oriented, reform-driven urban development by leveraging private investment and market-based financing. If implemented effectively, it can strengthen urban infrastructure, improve service delivery, and empower cities to become engines of sustainable economic growth

9.8. KEYWORDS

Key Words				
Digital Public Infrastructure (DPI)	Aadhaar Authentication	Ayushman Bharat Digital Mission	Data Protection Digital Personal Data Protection (DPDP) Act, 2023	Viability Gap Funding (VGF)
Public Private Partnership (PPP)	Hybrid Annuity Model (HAM)	Road Safety Strategy	Pradhan Mantri Gram Sadak Yojana (PMGSY)	National Logistics Policy (NLP), 2022
Unified Logistics Interface Platform (ULIP)	PM GatiShakti National Master Plan	Atal Mission for Rejuvenation and Urban Transformation (AMRUT)	Credit Repayment Guarantee Sub-Scheme (CRGSS)	

9.9. PRACTICE QUESTION

Discuss the major challenges in developing resilient, inclusive and sustainable infrastructure in India. Examine the role of digital infrastructure, transport connectivity, logistics reforms and urban development initiatives in supporting economic growth and improving public service delivery.

Introduction	Body Part 1	Body Part-2	Conclusion
Introduce infrastructure as a key driver of economic growth, connectivity, urban transformation and digital governance.	Mention key challenges such as digital divide, aviation safety concerns, logistics inefficiencies, poor road safety, implementation delays and urban infrastructure gaps.	Mention initiatives like DPI, UDAN, PMGSY, National Logistics Policy, PPP framework, AMRUT and Urban Challenge Fund along with reforms for sustainable infrastructure development.	Conclude with the need for technology-driven, integrated and citizen-centric infrastructure for inclusive and sustainable development.

10. MINING AND OTHER RESOURCES

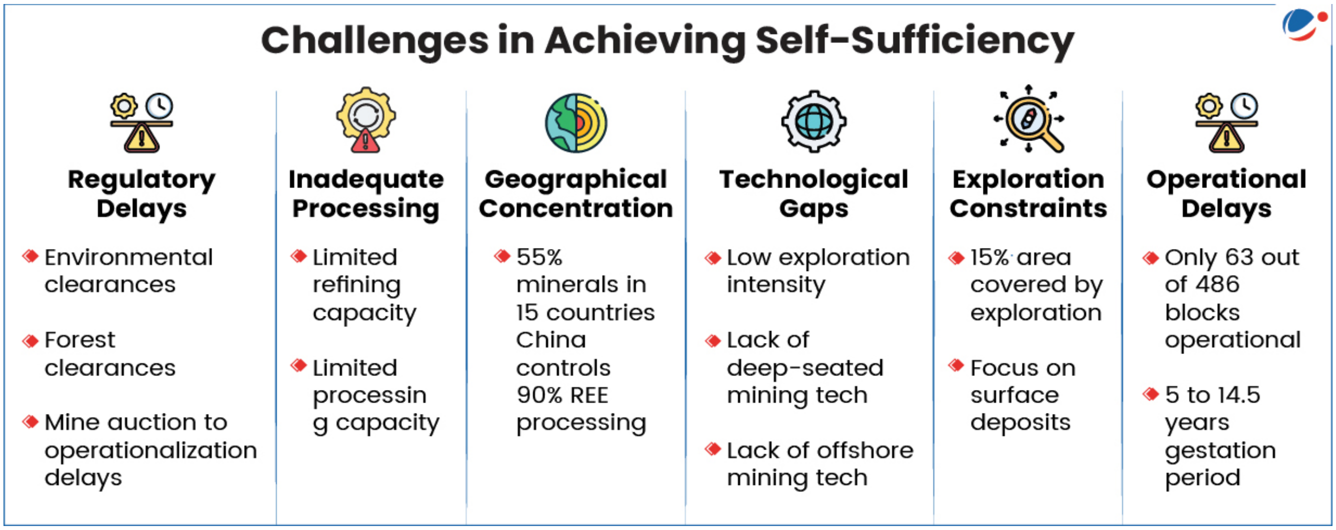
10.1. SELF-RELIANCE IN MINERALS AND METALS

Why in the News?

The Standing Committee on Coal, Mines, and Steel, presented its **16th Report on 'Self-Reliance in Minerals and Metals'**, outlining a roadmap for India to reduce import dependency and achieve the vision of Atmanirbhar Bharat.

Key details of 16th Report on Self-Reliance in Minerals and Metals

- **Status of Self-Sufficiency**
    - **Mineral Profile:** India produces **95 minerals**, including 4 fuel, 10 metallic, 23 non-metallic, 3 atomic, and 55 minor minerals.
    - **Global Standing in Production:** India ranks **2nd in crude steel, primary aluminium and refined lead**, 3rd in slab zinc and chromite, and 4th in iron ore and graphite (as per World Mineral Production, 2018-22).
        - During the year 2023-24, **the Private Sector contributed for 61.4% in the total value of production**.
    - **GDP Contribution:** The mining sector contributes approximately **2% to India's GDP,** significantly lower than Australia (12%) and Canada (6%), highlighting the need for India to "catch up".
    - **High Self-Sufficiency:** India is self-sufficient or near self-sufficient in **Iron Ore (100%)**, **Chromite (95%)**, **Limestone (93%)**, **Bauxite (85%)**, and Sillimanite.
    - **Import Dependence:**
        - **Critical Minerals:** India is **100% dependent on imports** for **Lithium, Cobalt, Nickel, Niobium and Gallium.**
        - **Substantial Reliance:** Significant imports are required for **Rock Phosphate (15% self-sufficient)**, **Magnesite (22%)**, and **Manganese Ore (38%)**.
        - **Refined Copper:** India currently has **40% import reliance**, though commissioning of new plants like Kutch Copper Limited is expected to boost self-reliance.



Challenges in Achieving Self-Sufficiency

Regulatory Delays	Inadequate Processing	Geographical Concentration	Technological Gaps	Exploration Constraints	Operational Delays
◆ Environmental clearances ◆ Forest clearances ◆ Mine auction to operationalization delays	◆ Limited refining capacity ◆ Limited processing capacity	◆ 55% minerals in 15 countries China controls 90% REE processing	◆ Low exploration intensity ◆ Lack of deep-seated mining tech ◆ Lack of offshore mining tech	◆ 15% area covered by exploration ◆ Focus on surface deposits	◆ Only 63 out of 486 blocks operational ◆ 5 to 14.5 years gestation period

Policy Initiatives to Increase Self-Reliance

- **Legislative Reforms:** The **MMDR Amendment Act (2015-2023)** introduced transparent e-auctions and a new **Exploration Licence (EL)** for 29 deep-seated and critical minerals.
    - **National Critical Mineral Mission (NCMM):** The government launched the NCMM in **2025** to establish a robust framework for self-reliance in the critical mineral sector.
- **Strategic Acquisitions Abroad: KABIL** (a JV of NALCO, HCL, and MECL) was formed to identify and acquire critical mineral assets overseas, particularly in **Lithium and Cobalt** (e.g., in Argentina, Chile).

- **Offshore Mining:** The **Offshore Areas Mineral (D&R) Act** was amended in 2023 to introduce auctions; the first tranche of **13 offshore blocks** (including polymetallic nodules and construction sand) was launched in 2024.
- **Fiscal Measures:** Import duties were eliminated for **25 critical minerals** (including Copper ores and Lithium) in the 2024-25 Budget to support domestic refining.
- **International Cooperation:** India joined the US-led **Minerals Security Partnership (MSP)** in 2023 to secure global supply chains.

Recommendations

- **Inter-Ministerial Monitoring:** Establish an **inter-ministerial group** to monitor the post-auction progress of mineral projects and fast-track operationalization.
- **Incentivizing Production:** Consider **penalties for delays** in operationalization and **financial incentives** for early production.
- **Urban Mining & Circular Economy:** Promote mineral recovery from **e-waste, industrial scrap, and EV batteries** through financial incentives (e.g., the proposed **₹1,500 crore incentive scheme**).
- **R&D Focus:** Strengthen Research and Development through **Centres of Excellence (CoEs)** and utilize AI/ML for mineral targeting.
- **Upskilling:** Recommends that mining companies allocate a percentage of CSR funds for upskilling the workforce to handle advanced technologies like AI and automation.
- **Statutory Clearances:** Give priority to critical mineral projects for environmental and forest clearances to reduce the gestation period between auction and production.

Conclusion

To achieve the vision of Atmanirbhar Bharat, India must bridge the gap between its self-sufficiency in bulk minerals and its import dependence on critical minerals by implementing strategic reforms like the National Critical Minerals Mission, accelerating domestic exploration, fostering public-private collaboration and integrating advanced technologies.

10.2. MINES AND MINERALS (DEVELOPMENT AND REGULATION) AMENDMENT ACT, 2025

Why in the News?

Recently, the **Mines and Minerals (Development and Regulation) Amendment Act, 2025** was passed by Parliament.

Key amendments and their significance

Amendment	Details	Significance
National Mineral Exploration and Development Trust (NMEDT)	• Replaces earlier National Mineral Exploration Trust (NMET) with widened scope and territorial domain. • NMEDT can use funds accrued to it within India, including the offshore areas and outside India, for the **purposes of exploration and development of mines and minerals.** • **Increased amount of payment to Trust by lessees** (to 3% of royalty from 2%).	• **Supports National Critical Mineral Mission (NCMM):** Expenditure of 8,700 crore rupees in next 5 years is envisaged from NMEDT under NCMM.
Inclusion of other minerals in a mining lease	• Lease holders can apply **to state government** for adding other minerals to an existing lease.	• **Incentivises production of critical and strategic minerals:** These minerals are found in

	• **No additional amount needs to be paid** for inclusion of **critical and strategic minerals**, and other specified minerals.	small quantity and are difficult to mine and process. ○ E.g., Cobalt & Nickel are generally found in association with copper ores.
Inclusion of contiguous area	• **Allows for one-time extension** of area under a **mining lease (up to 10%) or composite lease (up to 30%)** for deep-seated minerals.	• **Optimal mining of deep-seated minerals**: Extraction of these minerals may not be economically viable under a separate lease or licence.
Establishment of Mineral Exchanges	• **Establishes authority to register and regulate mineral exchanges** (a registered electronic trading platform or marketplace for trading minerals and metals).	• **Promote investment in mining sector:** It will help miners and end-users of minerals in determining fair and transparent market prices based on supply and demand dynamics.
Removal of limit on sale for captive mines	• **No limit on sale of minerals by captive mines**. ○ Earlier captive mines were allowed to sell only up to 50% of minerals produced in a year, after meeting end-use requirements.	• Bring more minerals in market and provide additional revenue to the States.

Why Critical/Strategic minerals are increasingly becoming important for India?

- **Chinese control on Supply chain**: China currently controls ~60-70% of rare earth production and 80-90% of global processing capacity.
- **Clean Energy Transition and Climate Goals:** E.g. **Silicon, Tellurium, Indium, and Gallium** are used in photovoltaic (PV) cells and rare earth elements such as **Dysprosium and Neodymium** are used in permanent magnets for wind turbines.
- **Electric Mobility:** E.g. Lithium, Nickel & Cobalt are key materials used in lithium-ion batteries and advanced energy storage systems and are also crucial for success of National Electric Mobility Mission Plan (NEMMP).
- **National Security and Defence Capabilities:** Critical minerals support a wide range of military capabilities, from communications and surveillance systems to weaponry and protective gear.
- **Securing Digital Sovereignty:** Ensuring resilient supply chain is crucial for furthering **Digital Economy and technological self-reliance.**
  - E.g. Silicon forms the basis of microchips whereas cobalt is used to enhance memory and logic devices.
- **Accelerating SDG gains:** It has potential to attract foreign and domestic investment, create jobs, and boost fiscal revenues, exports, and growth.
  - E.g. Chile has used copper revenues to support **poverty reduction (SDG 1) & improved health services (SDG 3)** (UNDESA).

Conclusion

India's shift to green energy depends heavily on having access to critical minerals. As the country works to lower its carbon emissions and improve energy security, it's crucial to ensure a reliable supply of these essential minerals.

10.2.1. INCENTIVE SCHEME FOR THE PROMOTION OF CRITICAL MINERAL RECYCLING

Why in the News?

The Ministry of Mines has issued detailed guidelines for the **Incentive Scheme for the Promotion of Critical Mineral Recycling**.

Key features of the scheme

- It is part of the **National Critical Mineral Mission (NCMM)**.
- **Aim:** To **incentivize the development of recycling capacity** for the separation and extraction of critical minerals from eligible waste streams within the country.
- **Tenure:** 6 years (from FY 2025-26 till FY 2030-31).
- **Eligible Feedstock**: Includes e-waste, Lithium-Ion Battery (LIB) scrap, and other scraps such as catalytic converters from end-of-life vehicles.
    - Scheme covers **27 critical minerals** including Antimony, Cadmium, Cobalt, Gallium, Graphite, Lithium, Nickel, Niobium, Rare Earth Elements (not containing Uranium and Thorium) etc.

About Critical minerals

- **Minerals** that are naturally occurring elements and compounds essential for a country's economic development and national security but facing significant supply-related challenges, often stemming from limited geographical occurrences or sourcing vulnerabilities.
- Ministry of Mines identified 30 critical minerals **for India** including Bismuth, Cobalt, Copper, Phosphorous, Potash, Rare Earth Elements (REE), Silicon, Tin, Titanium, etc.
    - **24** minerals from the list were included in **Part D of the First Schedule of the Mines and Minerals (Development and Regulation) Act, 1957 (MMDR Act).**

Significance of Recycling of Critical Minerals

- **Strengthening Domestic recycling Infrastructure:** It will enhance the **technological, regulatory, and financial ecosystems** for processing and recycling such as chemical processing, metallurgical extraction, or R3 and R4 level recycling of LIB scrap.
    - The scheme incentives are expected to develop at least **270 kilo ton of annual recycling capacity** resulting in around 40 kilo ton annual critical mineral production.
- **Securing Supply and Mitigating Geopolitical Risk:** Critical minerals are vital for modern technology and their supply chain is fragile and vulnerable due to the geographical concentration of their production and processing.
    - China controls ~60-70% of rare earth production and placed export restrictions on rare earth elements (REEs) and magnets used in the defence, energy, and automotive sectors.
- **Saving forex reserves:** Recycling, often referred to as **urban mining**, can reduce India's reliance on imports saving valuable forex reserves.
    - Import of four critical minerals - lithium (apart from lithium ion), cobalt, nickel and copper alone was around ₹34,800 crore in FY23-24.
- **Environmental and Sustainability Goals:** It will help improve **E-Waste Management,** conserving natural resources and **reducing pollution from new mines.**
- **Formalization of industry:** It is estimated to bring in Rs.8,000 crore of investment and create 70,000 direct and indirect jobs as envisaged in recycling scheme.

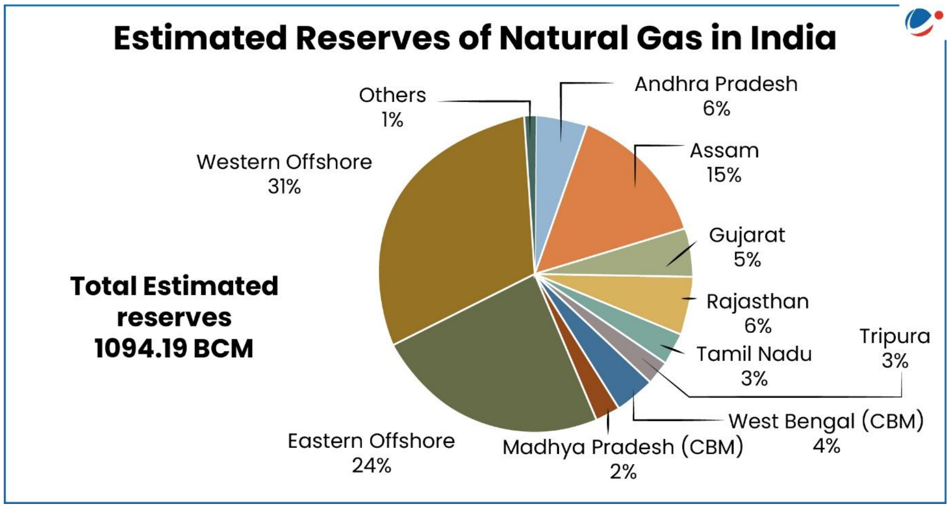
Conclusion

The Incentive Scheme for the Promotion of Critical Mineral Recycling is a strategic step towards securing India's critical mineral supply chains and reducing import dependence.

10.3. DISCOVERY OF NATURAL GAS IN ANDAMAN BASIN

Why in the News?

Ministry of Petroleum and Natural Gas informed about the occurrence of natural gas in the Sri Vijayapuram 2 well at 17 km from the shoreline on the east coast of the Andaman Islands.



Estimated Reserves of Natural Gas in India

More in the news

- **India's Hydrocarbon Resource Assessment Study (HRAS) estimates** hydrocarbon resources of 371 million Metric Tons of Oil Equivalent (MMTOE) in the **Andaman-Nicobar (AN) Basin**.
    - Geologically, the AN basin lies at the intersection of the Andaman and Nicobar Basins, part of the **Bengal-Arakan sedimentary system**.
    - Tectonic setting at the boundary of the **Indian and Burmese plates** have created numerous stratigraphic traps conducive to hydrocarbon accumulation.
- The discovery aligns with India's vision of establishing a **Gas Based Economy by 2030** and increasing **share of natural gas in its primary energy basket to 15%** by 2030.
    - Currently, India's **natural gas production meets only around 50% of its demand** with rest demand being fulfilled through imports.
        - > **Qatar, US and UAE are major sources** of India's Liquified Natural Gas (LNG) imports.

Gas-Based Economy

- **Target:** India aims to increase the share of **Natural gas,** a **fossil fuel** composed mainly of **methane (CH_4),** in its energy mix to 15% by 2030.
    - As of **2025**, its share is **only** 6.2%.
- **Key Significance**
    - **Decarbonization:** Lowers emissions by 15-20% compared to petrol and significantly reduce particulate matter (PM), Nox, and Sox emissions.
    - **Energy Security:** Diversifies the energy distribution network, reducing over-reliance on singular fossil fuels like imported crude oil.
    - **Economic Viability:** LNG offers a commercially viable alternative with a clear Total Cost of Ownership (TCO) advantage over diesel for heavy-duty long-haul trucking.

Initiatives Taken of Gas-Based Economy

Expanding National Gas Grid
Jagdishpur-Haldia/Bokaro-Dhamra pipeline (Eastern India) and the **Indradhanush Gas Grid Ltd** (IGGL) for the North-East.

SATAT (Sustainable Alternative Towards Affordable Transportation) Scheme & CBG Mandates
Launched in 2018 to invite entrepreneurs to produce **Compressed Bio Gas** (CBC) from waste.

Unified Tariff (UFT) Policy
Introduced by the **Petroleum and Natural Gas Regulatory Board** (PNGRB) to create a consistent, fair, **distance-zone-based** tariff **structure** across the country.

Other
Indian Gas Exchange (IGX), etc.

Initiatives for Natural Gas Exploration

- **Hydrocarbon Exploration and Licensing Policy (HELP) 2016:** Introduced a uniform licensing framework for all hydrocarbon exploration and production and introduced Open Acreage Licensing Policy (OALP).
- **National Deep Water Exploration Mission:** Under it, large number of deepwater exploration wells are planned in offshore basins to find new discoveries and fully exploit hydrocarbon reserves.
- **Other Initiatives:** National Data Repository, National Seismic Program, 100% FDI in natural gas sector etc.

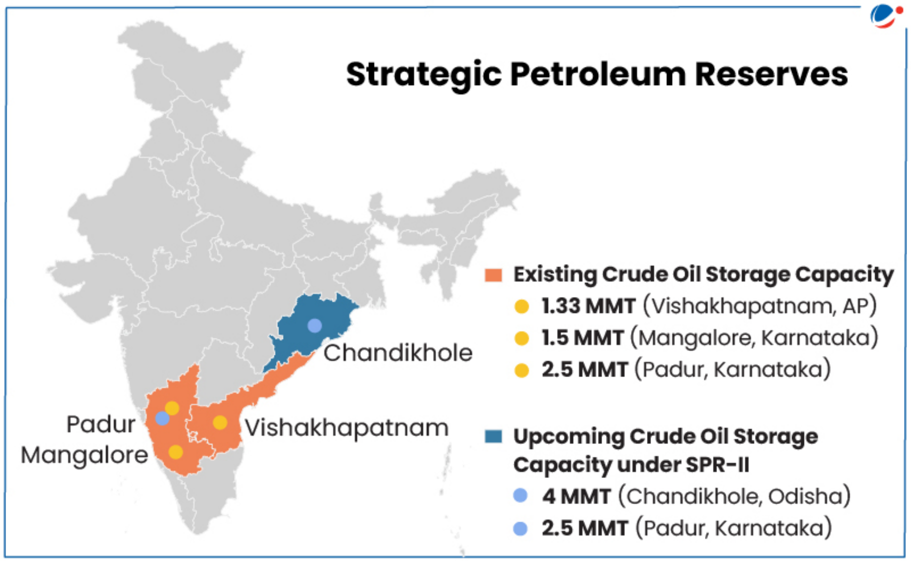
Conclusion

The discovery of natural gas in the Andaman Basin is a significant milestone in India's quest for energy security and self-reliance. By boosting domestic hydrocarbon production and supporting the transition towards a gas-based economy, it can reduce import dependence, promote cleaner energy use, and strengthen India's long-term economic and strategic interests.

10.3.1. STRATEGIC PETROLEUM RESERVES (SPRS)

Why in the News?

India's **SPRs** currently have a capacity of **5.33 million metric tonnes (MMT),** enough to last around 9.5 days of India's crude oil supplies at their full capacity.


Strategic Petroleum Reserves
Chandikhole
Padur
Mangalore
Vishakhapatnam
Existing Crude Oil Storage Capacity
1.33 MMT (Vishakhapatnam, AP)
1.5 MMT (Mangalore, Karnataka)
2.5 MMT (Padur, Karnataka)
Upcoming Crude Oil Storage Capacity under SPR-II
4 MMT (Chandikhole, Odisha)
2.5 MMT (Padur, Karnataka)

What are SPRs?

- **About**: These are **stockpiles of crude oil,** maintained by the government to **ensure energy security** to be used during **supply disruptions.**
    - These exist **in addition to the commercial stocks** held by oil companies.
- **Implementing Agency:** under Special Purpose Vehicle called **Indian Strategic Petroleum Reserves Limited** (ISPRL), established **in 2004.**
- **Ministry:** Ministry of Petroleum and Natural Gas.
- **Storage Technology:** Crude oil is stored in **underground rock caverns,** located deep below the ground, usually near coastal areas.
- **Locations (refer map)**
    - **Phase-I SPR Facilities (5.33 MMT):** Currently operational at three locations
        - **Visakhapatnam** (Andhra Pradesh)
        - **Mangaluru** (Karnataka)
        - **Padur (Karnataka)**
    - **Phase-II (approved in 2021, with additional 6.5 MMT):** Future expansion planned at
        - **Chandikhol** (Odisha)
        - **Padur** Phase-II

Significance of SPRs

- **Energy Security**: Provides protection against wars, supply disruptions, shipping blockades, etc.
- **Economic Stability**: Prevents the nation from sudden inflationary shocks as it acts as a market stabilization tool.
- **Strategic Autonomy**: Reduces dependence on external geopolitical dynamics.

Challenges to overcome by India

- **Limited Storage Capacity**: India's SPR capacity is **much lower than the 90-day benchmark (IEA)** covering only a **limited duration of consumption.**
- **Policy and Operational Issues**: There is **lack of clear policy on when to release reserves,** especially during price fluctuations.
- **High Capital and Maintenance Costs:** Building and operating deep, secure underground rock caverns or salt caverns is extremely expensive.
- **Environmental Issues:** Developing these large industrial sites often causes local displacement and environmental concerns, requiring strict regulatory and legal frameworks to ensure viability.

Conclusion

Strategic Petroleum Reserves are a critical pillar of India's energy security architecture, helping the country withstand external supply shocks and geopolitical uncertainties.

10.4. KEYWORDS

Key Words				
National Critical Mineral Mission (NCMM)	Minerals Security Partnership (MSP)	MMDR Amendment Act, 2025	National Mineral Exploration and Development Trust	Critical Minerals
Urban Mining	Circular Economy	Lithium-Ion Battery (LIB) Scrap	Rare Earth Elements (REEs)	Hydrocarbon Exploration and Licensing Policy (HELP)
Open Acreage Licensing Policy (OALP)	Gas-Based Economy	Strategic Petroleum Reserves	Energy Security	Offshore Mining

10.5. PRACTICE QUESTION

Discuss the importance of self-reliance in minerals, energy resources and critical raw materials for India's economic growth and strategic security. Examine the reforms and policy initiatives undertaken to strengthen domestic exploration, recycling and energy security in India.

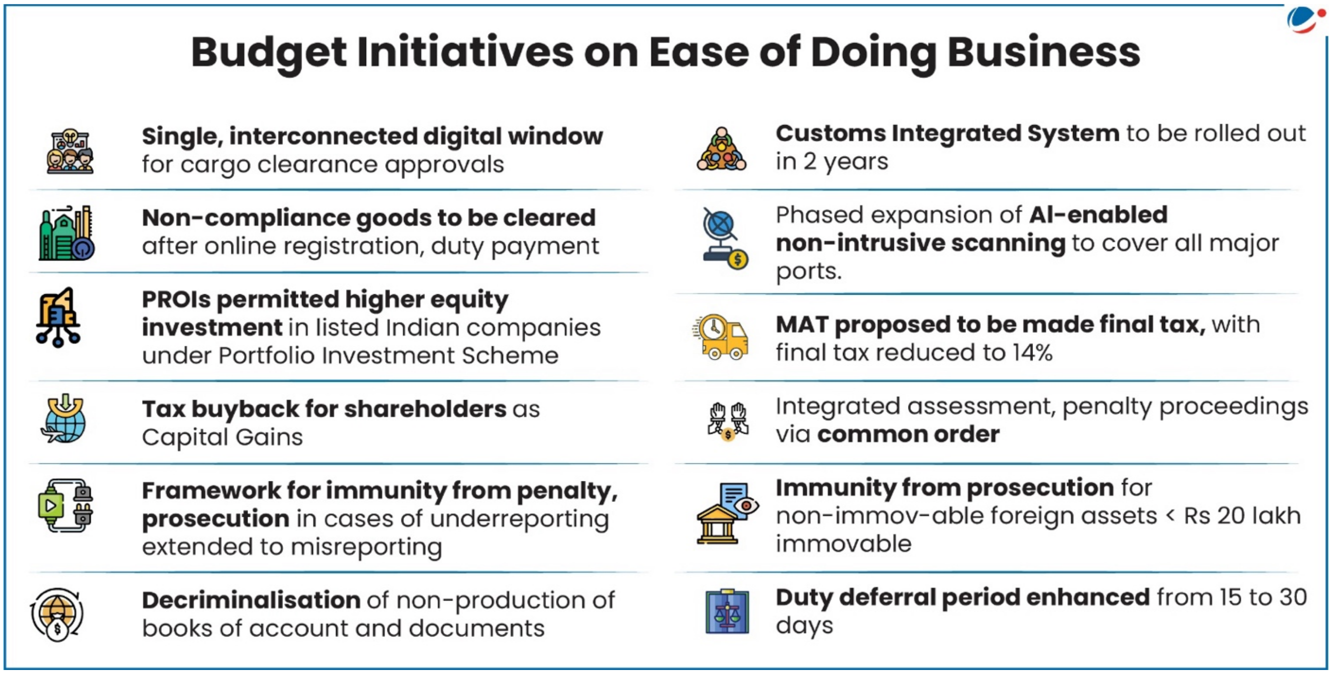
Introduction	Body Part 1	Body Part-2	Conclusion
Introduce the importance of minerals, hydrocarbons and critical resources in industrial growth, clean energy transition and strategic autonomy.	Mention key challenges such as import dependence on critical minerals, weak domestic exploration, geopolitical risks, low recycling capacity and limited energy reserves.	Mention initiatives like NCMM, MMDR Amendment Act, critical mineral recycling scheme, HELP policy, gas-based economy and Strategic Petroleum Reserves.	Conclude with the need for sustainable resource management, technological innovation and resilient supply chains for achieving Atmanirbhar Bharat.

11. INNOVATION AND ENTREPRENEURSHIP

11.1. EASE OF DOING BUSINESS IN INDIA

Why in the News?

The **Union Budget 2026-27** has reinforced Ease of Doing Business (EoDB) as a foundational pillar for economic growth and development.



Budget Initiatives on Ease of Doing Business

- **Single, interconnected digital window** for cargo clearance approvals
- **Non-compliance goods to be cleared** after online registration, duty payment
- **PROIs permitted higher equity investment** in listed Indian companies under Portfolio Investment Scheme
- **Tax buyback for shareholders** as Capital Gains
- **Framework for immunity from penalty, prosecution** in cases of underreporting extended to misreporting
- **Decriminalisation** of non-production of books of account and documents
- **Customs Integrated System** to be rolled out in 2 years
- Phased expansion of **AI-enabled non-intrusive scanning** to cover all major ports.
- **MAT proposed to be made final tax,** with final tax reduced to 14%
- Integrated assessment, penalty proceedings via **common order**
- **Immunity from prosecution** for non-immov-able foreign assets < Rs 20 lakh immovable
- **Duty deferral period enhanced** from 15 to 30 days

Significance of EoDB

- **Attracting Investment and Global Trade:** Clear and stable rules such as **Production Linked Incentives** (PLI) have helped India join global supply chains, turning the country into a major exporter of goods like electronics.
- **Helping Small Businesses (MSMEs):** Simplifying rules removes unnecessary hurdles for MSMEs.
  - Platforms like **Udyam Registration and TReDS** help them get officially recognized and give them quicker access to cash flow.
- **Good Governance: Faceless Tax Assessments** and the **National Single Window System** eliminate discretionary human interface, curbing corruption.
- **Creating Jobs:** Lowering the barriers to starting a business encourages new entrepreneurs.
- **Boosting Efficiency and Innovation:** By lowering logistics and transaction costs.

Challenges Associated with EoDB

- **Slow Legal System:** With over 4.6 crore pending cases, a massive amount of money (~ ₹25 lakh crore) is stuck in commercial disputes, which makes long-term investors nervous.
- **Disproportionated towards large corporations:** The recent improvements in doing business have mostly helped large corporations due to their capability to adapt new systems like GST compliance, e-invoicing, etc.

- **Implementation Divergence:** While states like Uttar Pradesh and Haryana have fully adopted business reforms, others are falling behind, leading to foreign investment mostly going to a few top-performing states.
- **Land and Labor Bottlenecks:** Land remains a complex State subject plagued by a lack of clear, digitized titles.
    - Furthermore, a severe formal skill gap in the workforce creates a mismatch between capital-intensive growth and the needs of labor-intensive manufacturing.

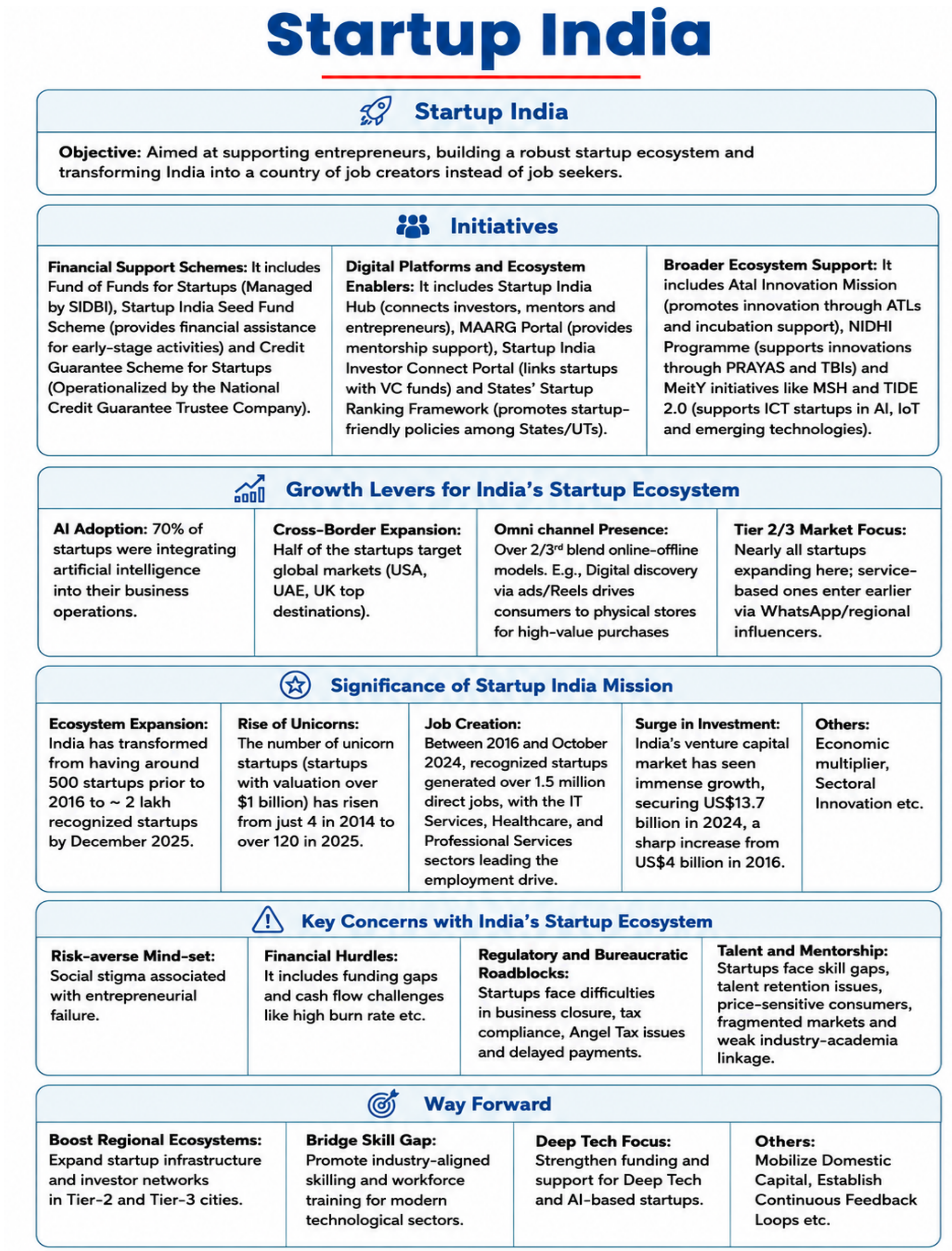
Way Ahead

- **Judicial Efficiency & ADR Mainstreaming:** Establish specialized commercial courts at the district level to bring dispute resolution times from the current ~626 days closer to the global average of 400 days.
    - Mandating ADR as a pre-litigation step can reduce case pendency and lower the cost of contract enforcement.
- **Localization via D-BRAP:** Shift the focus of reforms from State capitals to Municipalities through the District Business Reform Action Plan (D-BRAP).
    - Urban Local Bodies (ULBs) must be equipped with the digital infrastructure to handle construction permits and utility connections seamlessly.
- **Land Reform via U-PIN:** Expedite the nationwide rollout of the Unique Land Parcel Identification Number (U-PIN), acting as an "Aadhaar for Land," to create dispute-free digital titles and de-risk industrial land acquisition.
- **Trust-Based Governance:** Implement universal decriminalization of minor administrative lapses so that businesses do not operate under the threat of imprisonment.
    - Move micro-enterprises to **a self-certification model with randomized, risk-based audits**.
- **Aligning with ESG & B-READY Standards:** To secure top rankings in the World Bank's upcoming B-READY index, India must deeply integrate **Environmental, Social, and Governance (ESG) standardized** reporting.

Conclusion

Ease of Doing Business should be seen as a wider state-capacity reform that shapes investment, enterprise growth, export competitiveness, and employment generation. In India's context, better EoDB can deepen formalisation, improve MSME survival, reduce friction between citizen and state, and make growth more geographically broad-based.

11.2. STARTUP INDIA AT A GLANCE



Startup India

Startup India

Objective: Aimed at supporting entrepreneurs, building a robust startup ecosystem and transforming India into a country of job creators instead of job seekers.

Initiatives

Financial Support Schemes: It includes Fund of Funds for Startups (Managed by SIDBI), Startup India Seed Fund Scheme (provides financial assistance for early-stage activities) and Credit Guarantee Scheme for Startups (Operationalized by the National Credit Guarantee Trustee Company).

Digital Platforms and Ecosystem Enablers: It includes Startup India Hub (connects investors, mentors and entrepreneurs), MAARG Portal (provides mentorship support), Startup India Investor Connect Portal (links startups with VC funds) and States' Startup Ranking Framework (promotes startup-friendly policies among States/UTs).

Broader Ecosystem Support: It includes Atal Innovation Mission (promotes innovation through ATLs and incubation support), NIDHI Programme (supports innovations through PRAYAS and TBIs) and MeitY initiatives like MSH and TIDE 2.0 (supports ICT startups in AI, IoT and emerging technologies).

Growth Levers for India's Startup Ecosystem

AI Adoption: 70% of startups were integrating artificial intelligence into their business operations.

Cross-Border Expansion: Half of the startups target global markets (USA, UAE, UK top destinations).

Omni channel Presence: Over 2/3rd blend online-offline models. E.g., Digital discovery via ads/Reels drives consumers to physical stores for high-value purchases

Tier 2/3 Market Focus: Nearly all startups expanding here; service-based ones enter earlier via WhatsApp/regional influencers.

Significance of Startup India Mission

Ecosystem Expansion: India has transformed from having around 500 startups prior to 2016 to ~ 2 lakh recognized startups by December 2025.

Rise of Unicorns: The number of unicorn startups (startups with valuation over $1 billion) has risen from just 4 in 2014 to over 120 in 2025.

Job Creation: Between 2016 and October 2024, recognized startups generated over 1.5 million direct jobs, with the IT Services, Healthcare, and Professional Services sectors leading the employment drive.

Surge in Investment: India's venture capital market has seen immense growth, securing US$13.7 billion in 2024, a sharp increase from US$4 billion in 2016.

Others: Economic multiplier, Sectoral Innovation etc.

Key Concerns with India's Startup Ecosystem

Risk-averse Mind-set: Social stigma associated with entrepreneurial failure.

Financial Hurdles: It includes funding gaps and cash flow challenges like high burn rate etc.

Regulatory and Bureaucratic Roadblocks: Startups face difficulties in business closure, tax compliance, Angel Tax issues and delayed payments.

Talent and Mentorship: Startups face skill gaps, talent retention issues, price-sensitive consumers, fragmented markets and weak industry-academia linkage.

Way Forward

Boost Regional Ecosystems: Expand startup infrastructure and investor networks in Tier-2 and Tier-3 cities.

Bridge Skill Gap: Promote industry-aligned skilling and workforce training for modern technological sectors.

Deep Tech Focus: Strengthen funding and support for Deep Tech and AI-based startups.

Others: Mobilize Domestic Capital, Establish Continuous Feedback Loops etc.

11.2.1. STARTUP RECOGNITION FRAMEWORK

Why in the News?

The government revised the **Startup Recognition Framework** under the **Startup India Action Plan** to make it more inclusive for scaling and innovation-led businesses.

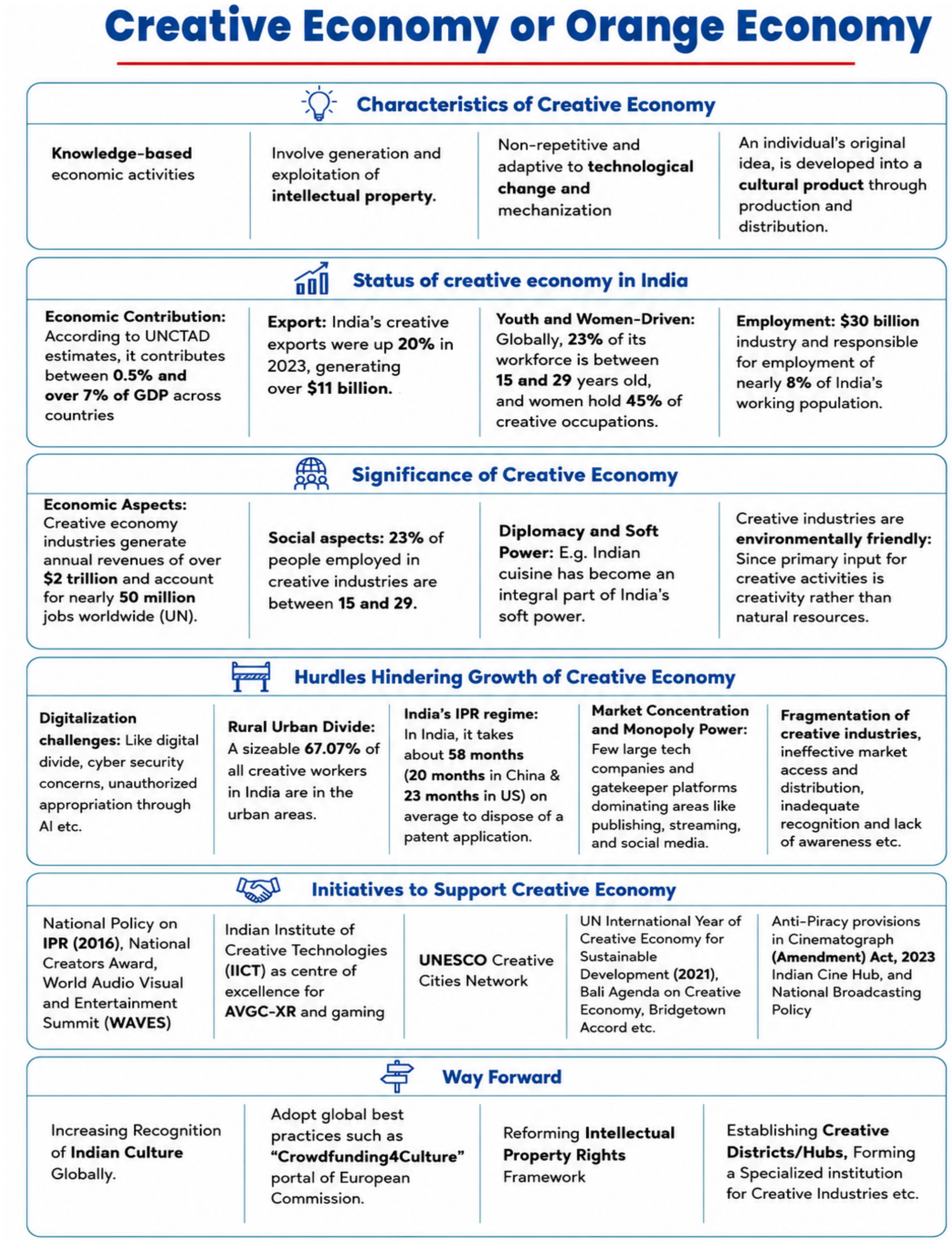
Key Features of India's New Startup Recognition Framework

- **Eligibility criteria for Startup recognition**:
  - **Incorporated or registered in India**: As a-
    - **Private limited company** (under Companies Act, 2013);
    - **Partnership firm** (under Partnership Act, 1932);
    - **Limited liability partnership** (under Limited Liability Partnership Act, 2008);
    - **Multi-State Cooperative Society (newly included)** under the Multi-State Cooperative Societies Act, 2002; or
    - **Cooperative Society (newly included)** registered under any State/UT Cooperative Societies Act.
  - **Age limit:** 10 years.
  - **Turnover limit:** ₹200 crore for any financial year **(doubled from earlier ₹100 crore).**
  - **Nature of work**: Working towards innovation, development or improvement of products/processes/ services, or is a scalable business model with a high potential of **employment generation or wealth creation**
- **Eligibility criteria for Deep Tech Startup (new sub-category)**: An eligible startup with following distinct criteria-
  - **Nature of work:**
    - **Development of solutions** based on new or evolving scientific/engineering knowledge, including multidisciplinary areas;
    - **High percentage of expenditure on** R&D activities relative to revenue/funding;
    - Owns/in process of creating **significant novel intellectual property (IP)** and commercializing it;
    - Facing **extended development timelines**, **long gestation periods**, **high capital** and **infrastructure requirements**, and carrying large **technical or scientific uncertainty.**
  - **Age limit:** 20 years.
  - **Turnover limit:** ₹300 crore.

Conclusion

The revised Startup Recognition Framework reflects India's commitment to fostering innovation, entrepreneurship, and job creation by broadening eligibility and supporting emerging sectors.

11.3. ORANGE ECONOMY AT A GLANCE



Creative Economy or Orange Economy

Characteristics of Creative Economy

- **Knowledge-based** economic activities
- Involve generation and exploitation of **intellectual property.**
- Non-repetitive and adaptive to **technological change and** mechanization
- An individual's original idea, is developed into a **cultural product** through production and distribution.

Status of creative economy in India

- **Economic Contribution:** According to UNCTAD estimates, it contributes between **0.5% and over 7% of GDP** across countries
- **Export:** India's creative exports were up **20%** in 2023, generating over **$11 billion.**
- **Youth and Women-Driven:** Globally, **23%** of its workforce is between **15 and 29** years old, and women hold **45%** of creative occupations.
- **Employment: $30 billion** industry and responsible for employment of nearly **8%** of India's working population.

Significance of Creative Economy

- **Economic Aspects:** Creative economy industries generate annual revenues of over **$2 trillion** and account for nearly **50 million** jobs worldwide (UN).
- **Social aspects: 23%** of people employed in creative industries are between **15 and 29.**
- **Diplomacy and Soft Power:** E.g. Indian cuisine has become an integral part of India's soft power.
- Creative industries are **environmentally friendly:** Since primary input for creative activities is creativity rather than natural resources.

Hurdles Hindering Growth of Creative Economy

- **Digitalization challenges:** Like digital divide, cyber security concerns, unauthorized appropriation through AI etc.
- **Rural Urban Divide:** A sizeable **67.07%** of all creative workers in India are in the urban areas.
- **India's IPR regime:** In India, it takes about **58 months (20 months** in China & **23 months** in US) on average to dispose of a patent application.
- **Market Concentration and Monopoly Power:** Few large tech companies and gatekeeper platforms dominating areas like publishing, streaming, and social media.
- **Fragmentation of creative industries,** ineffective market access and distribution, inadequate recognition and lack of awareness etc.

Initiatives to Support Creative Economy

- National Policy on **IPR (2016)**, National Creators Award, World Audio Visual and Entertainment Summit (**WAVES**)
- Indian Institute of Creative Technologies (**IICT**) as centre of excellence for **AVGC-XR** and gaming
- **UNESCO** Creative Cities Network
- UN International Year of Creative Economy for Sustainable Development (**2021**), Bali Agenda on Creative Economy, Bridgetown Accord etc.
- Anti-Piracy provisions in Cinematograph **(Amendment) Act, 2023** Indian Cine Hub, and National Broadcasting Policy

Way Forward

- Increasing Recognition of **Indian Culture** Globally.
- Adopt global best practices such as **"Crowdfunding4Culture"** portal of European Commission.
- Reforming **Intellectual Property Rights** Framework
- Establishing **Creative Districts/Hubs,** Forming a Specialized institution for Creative Industries etc.

11.4. NOBEL PRIZE IN ECONOMIC SCIENCES 2025

Why in the news

The Sveriges Riksbank Prize in Economic Sciences 2025 (Nobel Prize in Economic Sciences) was awarded to Joel Mokyr, Philippe Aghion and Peter Howitt for **explaining innovation-driven economic growth**.

Role of innovation and knowledge in growth

Role	Examples
Boosts productivity- Same input generates greater output	In OECD countries (UK, USA), 2/3rd to 3/4ths of labour productivity growth came from intangibles (R&D, software, innovation) and ICT (1995 to 2006)
Improving standard of living	New medicines, transport, better food, internet, increased opportunities for communication
Transforms Economies into Knowledge-Based Systems	Countries investing in education, ICT, and R&D (like South Korea **R&D spending 4.9% of GDP**) experience **faster GDP growth** and higher income mobility (World Bank's Knowledge Economy Index)
Encourages Entrepreneurship and High-Value Jobs	India's startup ecosystem created **1.5 lakh startups and 17 lakh direct jobs** (Dec 2024)
Promotes Sustainable and Inclusive Growth	Renewables (onshore Wind and solar) - the **most cost-effective option** for new electricity generation (IRENA, 2024)

Role of Creative Destruction in growth

Role	Examples
Fosters Innovation and Technological Upgrading	Automobile industry's **transition to electric vehicles (EVs)** displacing traditional combustion-engine firms, creating new markets for batteries and clean energy
Encourages Entrepreneurship and Competition	**India's digital revolution** (UPI, fintech, e-commerce) disrupted traditional banking and retail, increasing inclusion and innovation
Reallocation of Resources	High rates of **firm entry and exit** (over 10% in U.S.) and improved efficiency **of production factors** across units, improves **labor productivity growth.**
Economic Resilience	**COVID-19** accelerated **digital transformation**, enabling remote work and e-commerce growth

Conclusion

Economic growth stems from both innovation and strong fundamentals. Investment in infrastructure, education, and health boosts productivity, while macroeconomic stability builds investor confidence. Efficient use of resources and global integration further drive industrial expansion and technology transfer. Sustaining this momentum requires a proactive approach — fostering openness, managing disruption, resisting protectionism, ensuring coherent policies, and investing in research to secure long-term prosperity.

11.5. RESEARCH DEVELOPMENT AND INNOVATION (RDI) SCHEME

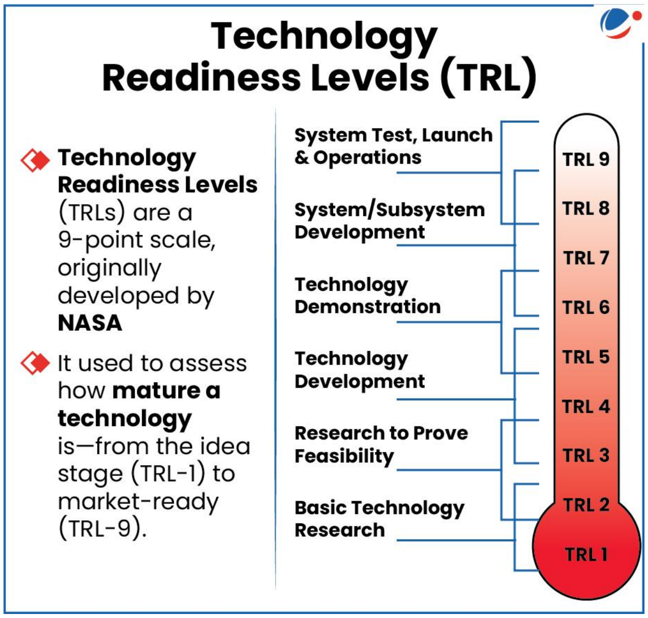
Why in the News?

The Union Cabinet recently approved RDI Scheme with a corpus of ₹1 lakh Crore.

About RDI Scheme

- **Nodal Department:** Department of Science and Technology.

- **Key objective of the scheme**
    - **Encourage the private sector to scale up** research, development, and innovation (RDI) **in sunrise domains** and in other sectors relevant for economic security, strategic purpose, and self-reliance;
    - **Finance transformative projects** at higher Technology Readiness Levels (TRL);
    - **Support acquisition of technologies** which are critical or of high strategic importance;
    - **Facilitate setting up of a Deep-Tech Fund of Funds.**
- **Funding and Financial Support**
    - **Modes of Financing**:
        - Long-term loan at low or nil interest rates.
        - Equity infusion, especially in case of startups.
        - Contributions to Deep-Tech Fund of Funds



Technology Readiness Levels (TRL)

- **Technology Readiness Levels** (TRLs) are a 9-point scale, originally developed by **NASA**
- It used to assess how **mature a technology** is—from the idea stage (TRL-1) to market-ready (TRL-9).

System Test, Launch & Operations
TRL 9
System/Subsystem Development
TRL 8
TRL 7
Technology Demonstration
TRL 6
TRL 5
Technology Development
TRL 4
Research to Prove Feasibility
TRL 3
TRL 2
Basic Technology Research
TRL 1

- **Implementation Structure**
    - **Special Purpose Fund**: Being set up under the Anusandhan National Research Foundation (ANRF) to serve as the first-level custodian.
    - **Second-Level Fund Managers:** May include Alternate Investment Funds (AIFs), Development Finance Institutions (DFIs), Non-Banking Financial Companies (NBFCs), or Focused Research Organizations (FROs) such as Technology Development Board (TDB), IIT Research Parks, or similar entities.

Challenges in Research and Development in India

- **Low R&D Investment and Diversification:** India's R&D expenditure stands at only 0.6–0.7% of GDP over the past two decades, significantly lower than global leaders like South Korea (4.8%) and Israel (5.6%).
    - Moreover, in FY 2021–22, the private sector **contributed just 36.4% of GERD (Gross Expenditure on Research and Development)**, compared to over 70% in countries like the US and China.
- **Limited State-level R&D funding:** During 2020–21, States accounted for only 6.7% of national R&D spending.
- **Limited Collaboration between Industry and Academia:** The **"Triple Helix" model** (seen in the US) remains underdeveloped, hindering commercialization and innovation.
    - **Triple Helix** means interactions between:
        - **Universities/academia** that engage in providing knowledge and research;
        - **Industry** that focuses on producing commercial goods and deployment;
        - **Government/Policy** that creates a regulated market environment to foster economic and social development.
- **Underutilization of Funds:** Departments such as DBT and DST utilized only 72% and 61% of their budgets in 2022–23, reflecting systemic inefficiencies.
- **Insufficient Recognition of Scientific Talent:** Although India produces over 40,000 PhDs annually, systemic issues like bureaucracy and lack of incentives deter innovation despite available human capital.

Way forward

- **Increase and Diversify R&D Funding:** Raise Gross Expenditure on R&D (GERD) to at least 2% of GDP by 2030 in line with National STI Policy targets.
- **State-Specific S&T Need Mapping:** Promote regional innovation hubs like Kerala's Startup Mission or Bengaluru's biotech cluster.
- **Strengthen Institutional Structures:** Implement research cluster models like CSIR innovation hubs to pool expertise and avoid duplication.

- **Foster Industry–Academia Collaboration:** Set up joint R&D centres funded by industry and government (e.g., Semiconductor Mission partnerships).
- **Recognise and Retain Scientific Talent:** Expand fellowships like Prime Minister's Research Fellowship (PMRF) and introduce global talent repatriation schemes.

Government initiatives to boost R&D in India

- **Anusandhan National Research Foundation (ANRF)** - Launched under the ANRF Act, 2023, it aims to increase R&D funding and promote partnerships between researchers, industries, and universities.
- **National AI Mission** - It focuses on advancing Artificial Intelligence. It applies AI in healthcare, agriculture, education, and governance for better innovation and services.
- **Atal Innovation Mission (AIM)** - It promotes innovation and startups. Also sets up **Atal Tinkering Labs (ATLs)** in schools and **incubation centers** for young entrepreneurs.
- **National Quantum Mission (NQM) -** Under this mission, **four Thematic Hubs (T-Hubs)** have been established in key technology verticals of **Quantum Computing**, **Quantum Communication, Quantum Sensing & Metrology and Quantum Materials & Devices**.

Conclusion

The RDI Scheme marks a significant step towards transforming India into a global innovation powerhouse by bridging critical funding gaps and encouraging private-sector participation in research. Its success, however, will depend on sustained investment, stronger industry-academia collaboration, and efficient institutional mechanisms to translate research into globally competitive technologies and economic growth.

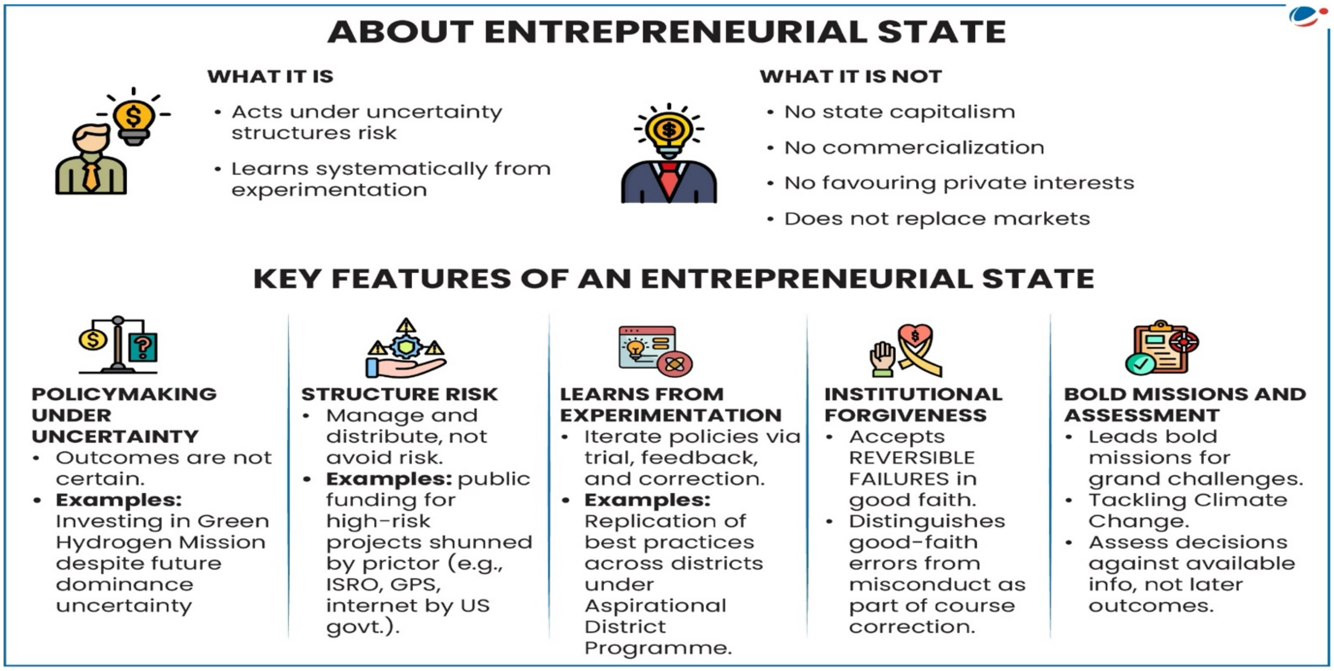
11.6. ENTREPRENEURIAL STATE

Why in the news?

Economic Survey 2025–26 recently called for India's transition towards an 'Entrepreneurial State" a term borrowed from economist **Mariana Mazzucato.**

More on news

- Survey places entrepreneurial state central to transition towards strategic indispensability.
    - **Strategic indispensability**: To build capabilities that others depend upon, making India a source of stability and value rather than only a participant in global markets.



ABOUT ENTREPRENEURIAL STATE

WHAT IT IS

- Acts under uncertainty structures risk
- Learns systematically from experimentation

WHAT IT IS NOT

- No state capitalism
- No commercialization
- No favouring private interests
- Does not replace markets

KEY FEATURES OF AN ENTREPRENEURIAL STATE

POLICYMAKING UNDER UNCERTAINTY
- Outcomes are not certain.
- **Examples:** Investing in Green Hydrogen Mission despite future dominance uncertainty

STRUCTURE RISK
- Manage and distribute, not avoid risk.
- **Examples:** public funding for high-risk projects shunned by prictor (e.g., ISRO, GPS, internet by US govt.).

LEARNS FROM EXPERIMENTATION
- Iterate policies via trial, feedback, and correction.
- **Examples:** Replication of best practices across districts under Aspirational District Programme.

INSTITUTIONAL FORGIVENESS
- Accepts REVERSIBLE FAILURES in good faith.
- Distinguishes good-faith errors from misconduct as part of course correction.

BOLD MISSIONS AND ASSESSMENT
- Leads bold missions for grand challenges.
- Tackling Climate Change.
- Assess decisions against available info, not later outcomes.

Barriers to an Entrepreneurial State

- **Action is Punished, Inaction is Safe**: Officials are more likely to get in trouble for trying a new visible solution than for following an outdated procedure.
- **Irreversibility Creep:** Temporary measures become permanent, deterring experimentation. (Eg. subsidies/loan waivers harden into commitments).
- **Retrospective Scrutiny:** Good-faith decisions are later examined through audits, vigilance, and judicial review, often ignoring the uncertainty of the times.
    - E.g. **In the 2G spectrum case**, where license cancellations amid retrospective scrutiny led to policy paralysis, even though the accused were later acquitted.
- **Co-ordination challenge:** Populist pressures by politicians and bureaucratic risk-aversion can hinder experimentation and bold policy action.
- **Unintended consequences of RTI act:** Excessive disclosure of internal deliberations chills candid discussion and risk-taking, leading to cautious, defensive decision-making.

Conclusion

Transforming governance from a culture of rigid procedural compliance to one of dynamic problem-solving requires embracing global best practices in accountability and innovation. By adopting Japan's model of "fair accountability" which prioritizes well-reasoned decisions over flawlessly error-free outcomes and mirroring South Korea's use of bounded safe spaces to judge experimentation based on available information rather than hindsight, administrations can empower officials to take calculated risks.

11.7. INTELLECTUAL PROPERTY RIGHTS IN INDIA

Why in the news?

India's Intellectual Property (IP) filings rose by **44% in last 5 years**, led by a **380% surge in Geographical Indications**.

India's Global Position in IP Filing

- India granted the **highest number of patents in FY24** (1,03,057 patents)
- India ranked **4th globally in trademark filings in 2023**, with a 6.1% increase over the previous year.
- India rose from **9th** (2020) to **6th** (2023) position in global patent filings **(WIPO)**

Reasons for Increase in IP Boom

- **Legal & Procedural Simplification of IP laws & rules** E.g. Patent examination timeline reduced from 48 months to 31 months and **mandatory e-submission** for patent documents.
- **Modernization of IP Offices:** IP offices have been digitized with a comprehensive e-filing system, leading to over 95% of applications being filed online.
- **International standards: E.g.** adoption of international classification under Locarno Agreement for Industrial Designs.
    - **Locarno agreement** is an **international agreement under the World Intellectual Property Organization (WIPO)** signed in 1968.
- **Awareness & Capacity Building E.g. SPRIHA Scheme** aims to integrate IPR education into higher learning institutions across the country
    - **National Intellectual Property (IP) Awards:** To recognize and reward the top achievers for their IP creations and commercialization.
- **Other: Fee Concessions** (10% fee reduction for online filings), **Digital initiatives** (IP Sarthi Chatbot for applicant support and IP Dashboard to provide real-time IP data) **and** use of AI and Machine Learning **etc.**

Intellectual Property Rights (IPR)

- **Definition:** IPR are the rights given to persons over the **creations of their minds.** They usually give the creator an exclusive right over the use of his/her creation for a certain period of time.
    - 8 types of IPR are covered under **IPR Policy Management (IPRPM) framework**.

- **Administered by: Controller General of Patents, Designs and Trademarks** which is under the control of the **Department for Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce and Industry.**

Significance of Growth in Intellectual Property Rights

Economic Impact: 1% increase in trademark, patent, and copyright protection can increase Foreign Direct Investment (FDI) by 3.8%, 2.8%, and 6.8% respectively.

Global Competitiveness: The surge in patent filings indicates India's evolution into a producer of innovation, fostering breakthroughs in critical sectors.

Startup Ecosystem: The increase in patent grants aligns with the rapid growth of the Indian startup ecosystem, with over 1.25 lakh recognized start-ups (March 2024).

Diversity and Inclusivity: India's share of women patent filers surged from 10.2% (2021) to 11.6%(2022)

Challenges related to IPR in India:

- **Low Research and Development (R&D) Spending:** India spends a mere 0.7% of its GDP on R&D, significantly lower than countries like China (2.1%) and Brazil (1.3%).
- **Patent Disputes and Evergreening:** The pharmaceutical sector often faces issues related to patent evergreening.
    - Section 3(d) of the Patents Act, 1970, prevents this, leading to disputes with multinational corporations.
- **Compulsory Licensing Concerns:** In the pharmaceutical sector, the government can allow the production of patented products (e.g., medicines) without the patent holder’s consent.
    - While this ensures access to essential medicines, it has led to **tensions with global pharmaceutical companies.**
- **IP Financing in Nascent Stage:** Due to lack of awareness, complexities in IP valuation, reliance on traditional tangible assets, and vulnerability of IP as collateral.
    - IP financing is the use of IP assets (trade marks, design rights, patents and copyright) to **gain access to credit.**
- **Ambiguity of "Patent Pending" Status:** Unlike countries like the USA, India lacks a clear provision for marking products as "patent pending," which could deter competitors and act as a marketing tool.
- **Other:** Delays in IPR Granting and Backlog, Weak Enforcement of IPR Laws, Commercialisation Gap (High filings don’t guarantee successful market-ready products) etc.

Way Forward

- **Holistic Review of National IPR Policy:** To address new and emerging trends in innovation, identify implementation gaps, and incorporate changes for **expanding innovation ecosystem and IP financing.**
- **Strengthen State Government Participation:** To formulate and implement their own IPR policies, focusing on awareness, innovation in educational institutions, establishing State-level Innovation Councils, and curbing IP crimes.
- **Strengthening Enforcement Mechanisms:** Improve coordination between law enforcement, customs, and IP offices and provide specialized IPR training. Establish more specialized IPR courts with technically trained judges.
- **Create IP Fund:** Establish a dedicated IP fund to support initiatives fostering IP culture in remote and traditional knowledge-rich regions, such as tribal belts, hilly, and North-East states.
- **Enhancing International Collaboration e.g.** Cooperate with global IP bodies (e.g., WIPO) and adopt best practices.
    - Ensuring that **trade agreement’s IP provisions** balance innovation, public health, and national interest.

- **Other:** Promoting Innovation & Research through R&D incentives (tax breaks, grants), Strengthening Cyber security & Digital IPR Protection to combat online piracy, enhance IP awareness through educational initiatives etc.

Conclusion

India's growing IP ecosystem reflects its transition towards a knowledge-driven and innovation-led economy. However, to fully harness the benefits of intellectual property, India must strengthen enforcement, promote commercialization, and ensure a balanced IP regime that fosters innovation while safeguarding public interest and inclusive development.

11.8. GLOBAL CAPABILITY CENTRE (GCC)

Why in the News?

The Finance Minister urged industry & government to work together to boost the setup of GCC and attract more Fortune 500 companies which are yet to establish their presence in India.

About GCCs

- Also known as **global in-house centres or captives (GICs),** GCCs are **offshore centres** established by **global firms** to provide various services to their parent organisations.
    - E.g. IT services, Research and Development (R&D), customer support and other business operations.
- They operate **within the internal organization structure** of the global corporate organization.
- **Major Drivers in India: Cost efficiency, Digital and Policy Readiness (e.g.,** Smart Cities, Digital India), **Talent availability (**Highly skilled & cost-effective workforce with english proficiency), **Large Consumer Market etc.**
- **Significance:** GCCs play a vital role in achieving cost efficiency, tapping into skilled talent pools, and fostering collaboration between parent firms and their international affiliates.

Status of GCC in India

Global Presence: India hosts >1,800 GCCs, accounting for ~50% of all GCCs worldwide.

Economic Contribution: Direct gross value addition (GVA) is $68 billion (expected to increase to $150-200 billion by 2030).

Employment Figures: Employs ~2.16 million people (expected to reach 2.5-2.8 million by 2030).

Growth Rate: At 11% CAGR over the last 5 years (contributing **1.6% to the national GDP).**

Growth Drivers for GCCs in India

- **Unmatched STEM Talent Pipeline:** India accounts for 28% of the global STEM workforce and 23% of global software engineering talent.
- **Rapid Cost Optimization & Scale:** India allows multinational corporations to scale quickly while operating at significantly higher cost-efficiency than in Western markets.
- **Strategic Global Integration:** India serves as a geographic gateway to emerging Asian markets while offering multinational companies' operational resilience and risk mitigation during global crises.
- **Government Initiatives:**
    - **Infrastructure and Cluster Development:** Modified Electronics Manufacturing Clusters (EMC 2.0) supporting creation of world-class infrastructure for electronics and IT industries.
    - **Startup and Innovation Support:** GENESIS – Gen-Next Support for Innovative Startups aimed at nurturing startups in Tier-II and Tier-III cities.
    - **Policy and Ecosystem Enablement:** DPIIT recognized startups contribute to GCC ecosystem by offering cutting-edge solutions, AI/ML capabilities, and digital services.
    - **Talent and Digital Skilling:** Initiatives like Skill India, Digital India, and Future Skills Prime (by MeitY and NASSCOM) are equipping India's workforce with next-gen digital skills.

- **Ease of Doing Business:** India's consistent improvement in the Ease of Doing Business rankings, along with liberalized FDI policies, has made it easier for global firms to establish and expand GCCs.

Challenges in development of GCCs in India

- **Skill Gaps:** Finding experts in niche domains like Artificial Intelligence (AI), Machine Learning (ML), Cloud Engineering, and Data Engineering is difficult.
- **Regulatory Compliance:** Complex regulatory structure makes it difficult to scale up GCCs.
- **Infrastructure Gaps:** Expanding into Tier-II cities mitigates cost but introduces hurdles regarding digital connectivity and physical infrastructure**.**
- **Cybersecurity threats:** Remote work environments, data transfers over unsecured networks, and highly personalized phishing attempts.

Strategic Interventions Required

- **Embrace Next-Gen Technologies:** e.g. AI, automation, cloud computing etc**.**
- **Navigate Geopolitical Complexities:** Adopt agile governance models to respond swiftly to complex geopolitical scenarios and resulting regulatory uncertainty.
- **Redefine Workforce Strategies:** Upskilling of talent, adoption of new-age skills and hybrid work models.
- **Sustainability:** Aligning GCCs with environmental, social, and governance **(ESG) goals.**

Conclusion

Global Capability Centres have emerged as a critical pillar of India's integration into global value chains, leveraging its unmatched STEM talent, cost efficiency, and policy support. With industry–government collaboration and effective ecosystem development, India can attract more Fortune 500 firms, enhance innovation capacity, and transform GCCs into engines of economic resilience and global competitiveness—thereby reinforcing its vision of becoming a knowledge-driven economy in the Amrit Kaal.

11.9. KEYWORDS

Key Words				
Ease of Doing Business (EoDB)	Production Linked Incentive (PLI) Scheme	Trade Receivables Discounting System (TReDS)	District Business Reform Action Plan (D-BRAP)	Unique Land Parcel Identification Number (U-PIN)
Startup India Seed Fund Scheme	Deep Tech Startups	Creative Economy (Orange Economy)	Intellectual Property Rights (IPR)	Gross Expenditure on Research and Development
Triple Helix Model	Entrepreneurial State	National Quantum Mission (NQM)	Global Capability Centres (GCCs)	STEM Workforce

11.10. PRACTICE QUESTION

Discuss the role of innovation, entrepreneurship and institutional reforms in transforming India into a knowledge-driven economy. Examine the initiatives undertaken to promote startups, research and development, intellectual property rights and global capability centres in India.			
Introduction	Body Part 1	Body Part-2	Conclusion
Introduce innovation and entrepreneurship as key drivers of economic growth, competitiveness and employment generation.	Mention key challenges such as low R&D spending, regulatory bottlenecks, skill gaps, weak industry-academia linkage, IPR issues and uneven startup ecosystem development.	Mention initiatives like Startup India, RDI Scheme, ANRF, National Quantum Mission, IPR reforms, GCC ecosystem and Ease of Doing Business reforms.	Conclude with the need for innovation-led, technology-driven and globally competitive growth supported by strong institutions and research ecosystems.

12. APPENDIX: KEY DATA AND FACTS

APPENDIX:KEY DATA AND FACTS	
GROWTH AND DEVELOPMENT	
Economic Indicators	• The **new GDP series adopts 2022-23 as the base year**, replacing the **earlier 2011-12 base year.** • **Nominal GDP** for FY 2025-26 was **revised downward by around 3.3-3.8%** despite **higher real growth of 7.6%.** • **Lower GDP base** increased the FY 2025-26 **fiscal deficit estimate** from 4.36% to **4.51% of GDP.** • Central government **debt to GDP is estimated at 57.5% of GDP**, above the **budgeted target of 55.6%.**
Poverty	• **Poverty Headcount Ratio** has decreased from 29.17% (2013-14) to **11.28%** (2022-23). • **24.82 crore Indians escaped multidimensional poverty** in last 9 years. (NITI Aayog). • **Extreme poverty** ($3 per day) fell from 27.1 percent in 2011-12 to **5.3 percent in 2022-23. (World Bank)** • India has **53% of women outside the labour force** due to care responsibilities (ILO). • **Income Inequality**: India's **top 1% own 22.6% of income** (World Inequality Report 2026).
Financial Inclusion	• **Global Findex 2025** highlighted that **account ownership in India has reached to 89%** in **2024.** • **RBI's Financial Inclusion Index** for March 2025 **stands at 67.0 vis-à-vis 53.9** in March 2021. • **RBI's Digital Payments Index (RBI-DPI)** surged to **493.22 in March 2025,** up from 153.47 in March 2019. • As of June 25, 2025 over **55.69 crore people hold Jan Dhan accounts.**
Rural India	• The average estimated **Monthly Per Capita Consumption Expenditure** in rural India rose **9.2%** in 2023-24 from the previous year**, higher than urban areas,** with 8.3% rise. (HCES 2023-24) • **Rural poverty** fell to **less than 5%** for the first time in 2023-24 from 25.7% in 2011-12. (SBI Report)
Land Reform	• **Average landholding** for farming among farmers decreased from 1.08 hectares in 2016-17 to just **0.74 hectares in 2021-22.** • The **arable /agriculture land** is reduced from 60.11 % in 2000-01 to **58.6% in the year 2023-24.** • The **percentage distribution of agricultural households** owning less than two hectares of land is **89.4%.**
EMPLOYMENT, LABOUR, AND SKILL DEVELOPMENT	
Periodic Labour Force Survey 2025	• **Overall LFPR (15 years & above)** remained stable at **59.3% in 2025.** • **Male LFPR** stood at **79.1%,** while **female LFPR** was **40.0%.** • **Rural LFPR** was **62.8%** compared to **52.2% in urban areas.** • **Overall unemployment rate** declined to 3.1% in 2025.
Workers Protests	• To reduce operational costs, firms increased third-party hiring, raising contractual workers' share in manufacturing to **42% in 2023–24** (ASI).

	• The **e-Shram Survey** shows the informal non-agricultural sector employs over **150 million workers** and continues expanding post-pandemic. • PLFS 2023–24 analysis shows nearly **64% of Indian workers** earn below **minimum wages** despite legal mandates.
Female Labour Force Participation	• As per **Economic Survey 2025-26,** increasing **Female Labour Force Participation Rate (FLFPR)** participation to **~55% by the 2050** could be critical for maintaining a high annual GDP growth trajectory. • **Claudia Goldin's U-Curve** (**Nobel Prize 2023**) shows women's labour force participation is shaped by social norms, legislative gaps, parenthood burden and technological change. • In India, **women constitute 43% of STEM graduates**, but only an estimated 27% participate in the STEM workforce. • The government has achieved the **milestone of 3 crore Lakhpati Didis** a year ahead of the March 2027 target and has now set a new goal of 6 crore by March 2029.
Gig Workers	• Represent over **2% of total workforce in India**. (Economic Survey 2025-26). • Gig workforce increased from 77 lakh in FY21 to **120 lakh in FY25**, a **55% increase.** • Around **40% gig workers earn below ₹15,000/month**. (Economic Survey 2025-26)
FISCAL POLICY	
Direct Taxation	• **11.7% tax–GDP ratio** in FY 2024-25 (6.7% for direct taxes and 5.0% for indirect taxes). • **Corporate Tax and Personal Income Tax** as the main contributors to Direct Tax. • India's **total Gross Direct Tax Collection** has more than **doubled** in last 5 years reaching to Rs. 28.11 lakh crores in FY 2025-26 (provisional).
STATE FINANCES	• During FY 2023-24, a total of **16 States were in Revenue Surplus**, while **12 States were in Revenue deficit.** • In FY 2023–24, **18 States recorded fiscal deficits above the 3% of GSDP** limit recommended by the Fifteenth Finance Commission.
Public Debt in India	• **Internal debt is 96.59%** and **external debt is 3.41%** of total public debt of 18,174,284 crore (Union Budget 2025-2026). • Fiscal Responsibility and Budget Management (FRBM) Act, 2003: It sets a target of containing **Central Government Debt to 40%** and **General Government debt to 60%** of GDP by 2024-25.
BANKING, PAYMENT SYSTEMS AND FINANCIAL MARKETS	
Banking Sector	• There are **12 Public Sector Banks (PSBs), 21 private sector banks, 44 foreign banks** operating in India. • **PSBs registered lowest ever NPAs** with gross **NPA ratio declining to 1.93%** and the Net NPA ratio dropping to 0.39% as of 31 March 2026. • Capital position of PSBs remained healthy, with **aggregate CRAR (Capital to Risk (Weighted) Assets Ratio) improving to 16.6%** as on 31 March 2026. • India processes nearly **50% of global real-time digital payments.** • There are **28 RRBs** with extensive network of 22,158 branches in about 730 districts.

Corporate Bond Market	• India's corporate bond market is **approximately ₹53.6 trillion (FY25),** having grown at a **Compound Annual Growth Rate (CAGR) of nearly 12%** over the last decade. • At approx. **15-16% of GDP**, it remains **much smaller compared to South Korea (79%), Malaysia (54%), and China (38%).**
EXTERNAL SECTOR	
Internationalization of Rupee	• **Triffin Dilemma** highlights the challenge of balancing global currency demand with domestic monetary stability. • India is expanding **UPI internationalisation** through adoption in countries like **Singapore, France and UAE**. • The Indian rupee depreciated sharply, with the **₹-US$ exchange rate** reaching around **₹96 per dollar in May 2026**.
Export Promotion Mission	• The mission envisions a **comprehensive, flexible and digitally driven framework** for export promotion. • The mission will be implemented for **six years** from **FY 2025–26 to FY 2030–31**. • Priority support will target tariff-affected sectors like **textiles, leather, gems & jewellery, engineering goods and marine products**. • The mission will function through two integrated sub-schemes — **Niryat Protsahan** and **Niryat Disha**. • Exports contributed around **21% to India's GDP** in **FY 2024–25** and supported over **45 million jobs**.
Foreign Direct Investment	• Cumulative amount of FDI inflows **reached $1.14 trillion** in Dec 2025. • **Maharashtra received highest FDI** followed by **Karnataka and Gujarat**. • **Singapore** was the top source of foreign inflows followed by Mauritius and USA. • **Computer software & Hardware**, followed by **Service sector received highest FDI**.
AGRICULTURE AND ALLIED ACTIVITIES	
Report on Value of Output from Agriculture and Allied Sectors	• Agriculture and Allied Sector contributed around **16% to India's GDP** in **FY24** (Economic Survey 2024–25). • The agriculture sector supports livelihoods of nearly **46.1% of the population**. • Agriculture and allied sectors' **GVA** increased by around **225%** at current prices between **2011–12 and 2023–24**. • The sector's **Gross Value of Output (GVO)** grew by **54.6%** at constant prices during **2011–12 to 2023–24**.
Grain Storage System	• According to the **Third Advance Estimates** for 2024–25**,** India achieved a record foodgrain production of **353.96 million tonnes.**
Food Processing Sector	• **Sunrise sector** grew 7.3% annually (2015–2022), contributing 10.54% to manufacturing GVA & 11.57% to agriculture GVA in 2020–21. • **20.68 lakh employees engaged** in the food processing industry in 2021-22. • **Share of processed food exports** in agri-exports has **increased from 13.7 percent in 2014-15 to 20.4 percent in 2024-25.**
Fertiliser Sector	• India is the **second-largest consumer and third-largest producer** of Fertilizers globally. • India's **N:P:K consumption ratio** is highly skewed toward nitrogen (far exceeding the recommended 4:2:1), primarily due to heavy subsidy on urea.

Farmer Producer Organization	• **FPO is registered** either under **Companies Act, 2013** or under **Co-operative Societies Act, 1912** of the concerned States. • Approx. **56.32 lakh farmers are registered under the Formation and Promotion of 10,000 FPOs.** with around **39%** of them being women.
Self-Sufficiency In Edible Oils	• **High import share:** India imports **56% of its edible oil needs** (15.66 MMT in 2023-24). • **Palm oil contributes 60%,** Soyabean oil 20% and Sunflower oil contributes 20%. • **Rising consumption outpacing production:** Domestic consumption of Oilseeds has always outpaced their domestic availability during every year from 2013-14 to 2022-23.
Blue Economy	• **India's blue economy** contributes **4% of its GDP** and handles **95% of its trade by volume.** • **12 major (Vadhavan Port in Maharashtra will be 13th major port)** and **200 minor ports** along its coastline. • By 2035, **India's coastal shipping** modal share is expected to grow from **6% to 33%**, reflecting robust potential for economic expansion. • India emerged as the **second-largest fish producer in world**, contributing **nearly 8% of global fish production.**
INDUSTRY AND INDUSTRIAL POLICY	
Manufacturing Sector	• **Union Budget 2026–27** proposes a **two-track manufacturing strategy** balancing **technology-intensive growth** with **labour-intensive employment generation**. • Manufacturing contributes around **17% to India's GDP**. • India accounts for nearly **3% of global manufacturing output**. • The manufacturing sector employed around **11.4% of the workforce** in **2023–24** (NITI Aayog). • The textile sector is the country's **second-largest employment generator** after agriculture.
Micro, Small, And Medium Enterprises (MSMEs)	• MSMEs contribute around **31.1% to India's GDP** and nearly **48.58% of total exports**. • MSMEs account for around **35.4% of manufacturing output**. • The MSME sector provides employment to nearly **32.82 crore people**.
Semiconductor	• India's semiconductor market is valued at **$52 billion in 2024-25** and the market is set to hit **$100–110 Bn by 2030**. • India currently meets **only ~10% of its semiconductor demand domestically.** • **Taiwan** alone accounts for over **60% of global semiconductor manufacturing** and nearly 90% of the most advanced chips.
Maritime Sector	• Nearly **95% of India's trade by volume** and **70% by value** is carried through maritime routes. • India's major ports handled around **855 million tonnes of cargo** in **FY 2024–25**. • India's seafarer workforce rose from **1.25 lakh to over 3 lakh**, accounting for nearly **12% of global seafarers**. • The **Sagarmala Programme** enabled around **118% growth in coastal shipping** over the last decade, lowering logistics costs and emissions.
Special Economic Zones	• India had **368 notified SEZs** as of **February 2026**. • SEZ exports reached around **₹11.70 lakh crore** by **December 2025**.

	• SEZs attracted nearly **₹7.86 lakh crore** in domestic and foreign investments by **December 2025**. • SEZs generated over **31.73 lakh jobs** by **December 2025**.
SERVICES	
Insurance Sector	• **Insurance penetration** in India remains low at around **3.7% of GDP** despite recent sectoral growth. • The increase in **FDI limit from 74% to 100%** aims to boost foreign capital inflows, strengthen insurers and improve financial stability.
Quick Commerce	• India's quick commerce sector is projected to grow by around **75–100% year-on-year** (Bernstein report). • The quick commerce market is expected to reach around **US$5 billion by 2025** and **US$9.94 billion by 2029**.
INFRASTRUCTURE	
Digital Public Infrastructure	• Digital Public Infrastructure has strengthened service delivery, with **DigiLocker** crossing **58.31 crore users** and **Aadhaar authentication transactions** rising by **10% in 2024–25**. • Under **ABDM**, over **79 crore ABHA IDs** were created and nearly **65 crore health records** linked to strengthen digital healthcare infrastructure.
Aviation Sector	• India is the world's **third-largest aviation market** by passenger traffic, handling over **350 million passengers** annually. • Women constitute around **15% of India's pilots**, significantly above the **global average of 5%**. • India's domestic air passenger traffic is growing at around **10–12% annually**. • Around **81 airports** in India have shifted to **100% green energy usage** to support aviation decarbonisation.
Road Safety	• India recorded a **15% rise in fatalities** between 2010 and 2021 (**WHO's Global Status Report on Road Safety 2023)** • **66%** of the accidents involved individuals **aged between 18 and 34.** • **National Highways** account for merely 2% of India's total road length, yet they contribute to **nearly 30% of all road fatalities.** • **Supreme Court** recognized **"right to a safe commuting environment and the safety of a commuter"** as integral to the "**Right to Life**" under Article 21.
National Logistics Policy, 2022	• It was launched to complement the PM Gati Shakti National Master Plan (PMGS-NMP). • **Aims to reduce cost of logistics in India** to be comparable to global benchmarks by 2030. • Presently, **India's estimated logistics cost in 2023-24 is at 7.97%** (NCAER). • India ranks **38th in World Bank's LPI 2023** (improvement from 44th in 2018).
MINING AND OTHER RESOURCES	
Self-Reliance in Minerals and Metals	• India produces **95 minerals**, including 4 fuel, 10 metallic, 23 non-metallic, 3 atomic, and 55 minor minerals. • India ranks **2nd in crude steel, primary aluminium and refined lead**, 3rd in slab zinc and chromite, and 4th in iron ore and graphite (as per World Mineral Production, 2018-22).

	- The mining sector contributes approximately **2% to India's GDP,** significantly lower than Australia (12%) and Canada (6%), highlighting the need for India to "catch up". - India is self-sufficient or near self-sufficient in **Iron Ore (100%)**, **Chromite (95%)**, **Limestone (93%)**, **Bauxite (85%)**, **Limestone (93%)** and Sillimanite
Critical Minerals	- Ministry of Mines identified 30 critical minerals for India including Bismuth, Cobalt, Copper, Phosphorous, Potash, Rare Earth Elements (REE), Silicon, Tin, Titanium, etc - **Incentive Scheme for the Promotion of Critical Mineral Recycling** covers **27 critical minerals** including Antimony, Cadmium, Cobalt, Gallium, Graphite, Lithium, Nickel, Niobium, Rare Earth Elements (not containing Uranium and Thorium) etc.
INNOVATION AND ENTREPRENEURSHIP	
Startup India	- India's startup ecosystem expanded from around **500 startups before 2016** to nearly **2 lakh recognised startups** by **December 2025**. - The number of Indian unicorns increased from just **4 in 2014** to over **120 in 2025**. - Recognised startups created over **1.5 million direct jobs** between **2016 and October 2024**, led by IT, healthcare and professional services. - Around **70% of startups** have integrated **artificial intelligence** into their business operations. - Nearly **half of Indian startups** target global markets, with **USA, UAE and UK** emerging as key destinations.
Orange Economy	- The **Orange Economy** contributes between **0.5% and over 7% of GDP** across countries (UNCTAD estimates). - India's creative exports rose by around **20% in 2023**, generating over **US$11 billion**. - India's creative economy is estimated at around **US$30 billion** and supports nearly **8% of the workforce**.
Intellectual Property Rights	- **India's Intellectual Property (IP)** filings **rose by 44%** in last 5 years, led by a 380% surge in **Geographical Indications.** - India granted the **highest number of patents** in FY24 (1,03,057 patents) - India rose from **9th (2020) to 6th (2023) position** in global patent filings (WIPO)
Global Capability Centre	- India hosts over **1,800 Global Capability Centres (GCCs)**, accounting for nearly **50% of GCCs worldwide**. - GCCs contribute around **US$68 billion in direct GVA**, projected to reach **US$150–200 billion by 2030**. - India's GCC ecosystem employs around **2.16 million people**, expected to rise to **2.5–2.8 million by 2030**. - The GCC sector has grown at around **11% CAGR** over the last five years, contributing nearly **1.6% to GDP**.

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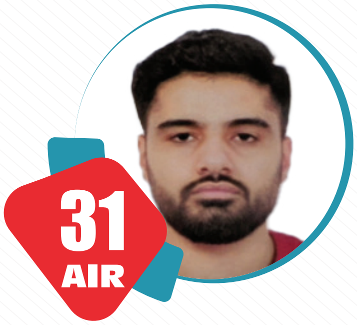

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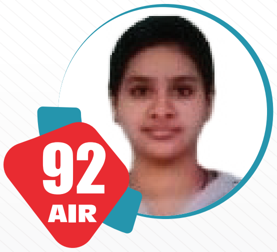

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